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# PROCEEDINGS

OF THE

TWENTY-FIFTH ANNUAL MEETING

OF THE

## Georgia State Horticultural Society

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LAND IN AGRICULTURE

HELD AT

Milledgeville, Ga., August 7th and 8th, 1901



*Chartered July 14th, 1876. Organized August 16th, 1876. Reor-  
ganized Under New Charter August 1st, 1882.*

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## PREFATORY.

The Twenty-Fifth Annual Meeting of the Georgia State Horticultural Society convened at Milledgeville, Ga., August 7th and 8th. The morning session Aug. 7th, was called to order at 11 A. M., President P. J. Berckmans in the Chair. Owing to the railroads having refused free transportation to the members of the Society the attendance was smaller than usual; only about 100 members being present. The refusal of the railroads to grant free transportation did not have any influence upon a number of the absentees, as the members from North Georgia were prevented from attending on account of being in the midst of their peach shipping, the season being from a week to ten days late this year. The sessions of the Society were held in the court-room of the Baldwin County Court House. The room was decorated with magnificent specimens of palms and ferns. Many of the specimens would do credit to any first-class professional florist. The plants above mentioned were all grown by ladies of this thriving town. The Mayor of Milledgeville, Hon. Julius A. Horne, made the Address of Welcome which was responded to by H. A. Matthews and W. D. Hammock in behalf of the Society.

Then followed the address of President P. J. Berckmans; he gave a practical talk and laid particular stress on the denudation of our forests. He urged that some legislation be taken to prevent the useless and reckless cutting away of our forest trees. He also impressed upon the fruit shippers the necessity of using a uniform package in the shipping of their fruit, careful and regular packing. Prof. H. B. Buist, Horticulturist of Winthrop Normal and Industrial College, Rock Hill, S. C., followed next with an address on "Horticulture in Our Schools." The members were then treated to a bountiful Georgia barbeque which was tendered to them by the ladies and citizens of Milledgeville. This feast was greatly enjoyed and the thanks of the guests were eloquently returned to their hosts by Major Ryals of Savannah.

The afternoon session was opened by a talk from J. P. Fort, of Mt. Airy, Ga., upon insectivorous birds. This was followed by a report from State Entomologist W. M. Scott, showing upon the map of the State of Georgia the distribution of the San Jose scale, and saying that in every instance where the scale had been discovered in the State it had been vigorously fought and sprayed with kerosene and was under full control. In some orchards which were badly infested two years ago they have succeeded in almost totally eradicating the scale. This demonstrates that when the scale is fought according to the directions given by Prof. Scott the fruit growers need have no fear of its getting beyond their control. The brown rot is more to be feared than the San Jose scale.

The night session was a most interesting one, Entomologist Scott and Assistant Entomologist Fiske giving most comprehensive lectures upon noxious and beneficial insects, these lectures being illustrated by a series of beautiful lantern slides. At the end of the night session, the ladies of Milledgeville tendered a delightful reception to the members of the Society.

The morning session of Thursday, August 8th, was opened by a discussion upon pecan culture which is becoming a very profitable industry in the South. This was followed by a discussion on brown rot which disease was very disastrous to the plum and peach crop in certain sections of Georgia this year. In many instances where Bordeaux mixture was used, the fruit crop was saved; but in other instances spraying with Bordeaux seemed to have no appreciable effect upon the brown rot. If these cases where the brown rot was so fatal were investigated, it would probably be found that the spraying was not properly done.

The following officers were elected for the ensuing year : President, P. J. Berckmans, and the following Vice-Presidents : Second Congressional District, W. B. Hammock; Fourth, James Cureton; Sixth, R. E. Park; Eighth, H. M. Starnes; Tenth, Dr. Neil McInnes; Secretary and Treasurer, L. A. Berckmans.

Macon, Ga., was selected as a place of meeting for 1902. A Committee on Legislation was appointed, this committee to go before the Legislature and ask for an additional appropriation for the entomological department, the present appropriation being inadequate. A committee was also appointed to draft a bill to prevent the destruction of insectivorous birds.

The display of fruit and vegetables was small, but the specimens shown were of superior quality.





## OFFICERS.

### PRESIDENT :

P. J. BERCKMANS ..... Augusta

### VICE-PRESIDENTS :

1st Congressional District—MAJ. G. M. RYALS ..... Savannah  
 2d Congressional District—W. B. HAMMOCK ..... Coleman  
 3d Congressional District—HENRY A. MATHEWS ..... Fort Valley  
 4th Congressional District—JAMES CURETON ..... Moreland  
 5th Congressional District—PROF. W. M. SCOTT ..... Atlanta  
 6th Congressional District—R. E. PARK ..... Macon  
 7th Congressional District—COL. GEO. H. WARING ..... Cement  
 8th Congressional District—PROF. HUGH N. STARNES ..... Athens  
 9th Congressional District—JOHN J. JUSTICE ..... Marcus  
 10th Congressional District—DR. NEIL MCINNES ..... Augusta  
 11th Congressional District—COL. JNO. M. STUBBS ..... Dublin

### SECRETARY AND TREASURER :

LOUIS A. BERCKMANS ..... Augusta

## STANDING COMMITTEES:

### ON NEW FRUITS.

Prof. Hugh N. Starnes ..... Athens  
 J. C. Miller ..... Rome  
 S. H. Rumph ..... Marshallville  
 L. A. Berckmans ..... Augusta  
 H. A. Mathews ..... Fort Valley

### ON SYNONYMS.

Prof. Hugh N. Starnes ..... Athens  
 Prof. F. S. Earle ..... Auburn, Ala  
 Prof. P. H. Rolfs ..... Clemson College, S. C  
 Mark Reigel ..... Experiment  
 C. T. Smith ..... Concord

### ON DOMESTIC WINES.

Col. Geo. H. Waring ..... Cement  
 Dr. Neil McInnes ..... Augusta

### ON ORNAMENTAL AND USEFUL TREES.

Charles Deckner ..... Atlanta  
 Geo. H. Miller ..... Rome  
 R. C. Berckmans ..... Augusta  
 M. H. Hopkins ..... Louisville  
 Alfred Cuthbert ..... Augusta

ON VEGETABLE CULTURE.

G. M. Ryals.....	Savannah
R. P. Johnson.....	Plains
R. I. Denmark.....	Quitman
J. E. Rosier.....	Augusta
J. E. Jackson.....	Gainesville

ON PACKING FRUITS AND VEGETABLES.

L. A. Rumph.....	Marshallville
W. W. Stevens....	Mayfield
W. D. Hammock.....	Coleman
A. Jones.....	Cuthbert
C. T. Stubbs.....	Montrose

ON TRANSPORTATION OF FRUITS AND VEGETABLES.

Col. John M. Stubbs.....	Dublin
Maj. G. M. Ryals....	Savannah
J. W. Wheatley.....	Americus
R. E. Park.....	Macon
Dudley M. Hughes.....	Danville

ON LEGISLATION.

Dudley M. Hughes.....	Danville
L. A. Berckmans.....	Augusta
Henry A. Mathews.....	Fort Valley
Maj. G. M. Ryals....	Savannah
Prof. Hugh M. Starnes.....	Athens
John P. Fort.....	Athens

ON FORESTRY.

W. M. Scott.....	Atlanta
Alfred Cuthbert.....	Augusta
R. J. Redding.....	Experiment

ON BIOLOGY.

W. F. Fiske.....	Atlanta
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Roll of Members of the Georgia State Horticultural Society for 1901.

Banks, Henry.....	LaGrange, Ga
Birdsong, W. T.....	Mayfield, Ga
Bostock, Samuel.....	Beaufort, S. C
Bennett, Miss Laura.....	Camilla, Ga
Berckmans, P. J.....	Augusta, Ga
Berckmans, L. A.....	Augusta, Ga
Berckmans, P. J. A., Jr.....	Augusta, Ga
Berckmans, R. C.....	Augusta, Ga
Baird, John F.....	Fort Valley, Ga

Bozemans, Louis I.....	Quitman, Ga
Boone, H. L.....	Valdosta, Ga
Boone, W. P.....	Cuthbert, Ga
Brooksher, H. K....	Demorest, Ga
Brown, David.....	Albany, Ga
Bull, G. E.....	Richland, Ga
Buist, H. B.....	Rock Hill, S. C
Crittenden, H. A.....	Shellman, Ga
Carpenter, S. M.....	Moreland, Ga
Carter, T. F.....	Richland, Ga
Carson, J. M.....	Harmony Grove, Ga
Caston, D. L.....	Jackson, Ga
Chase, H. S.....	Huntsville, Ala
Chase, H. B.....*	Huntsville, Ala
Chase, R. C.....	Huntsville, Ala
Cheatham, E. E.....	Savannah, Ga
Carter, L. W.....	Metcalf, Ga
Cheatham, R. S.....	Savannah, Ga
Carlton, Mrs. H. H.....	Athens, Ga
Cuthbert, Alfred.....	Augusta, Ga
Camp, J. A.....	Moreland, Ga
Cureton, James.....	Moreland, Ga
Cobb, Mrs. Lamar.....	Athens, Ga
Cureton, Mrs. James.....	Moreland, Ga
Durban, D. P.....	Augusta, Ga
Dresser, F. L.....	Kewannee, Ga
Denmark, R. I.....	Quitman, Ga
Deitzen, Charles.....	Fort Valley, Ga
Deckner, A. T.....	Atlanta, Ga
Deckner, Charles.....	Atlanta, Ga
Duggan, H. W.....	Coleman, Ga
Ellis, B. W.....	Cuthbert, Ga
Ellis, Mrs. E. L.....	Cuthbert, Ga
Ellington, H. M.....	Ellijay, Ga
Easterlin, J. J.....	Montezuma, Ga
Farmer, L. R.....	Louisville, Ga
Fraser, James W.....	Huntsville, Ala
Free, Jas. E.....	Demorest, Ga
Fountain, J. T.....	Augusta, Ga
Fort, J. P.....	Athens, Ga
Griffing, C. M.....	Macclenny, Fla
Gillan, F.....	Sherman Heights, Tenn
Gilmore.....	Warthen, Ga
Greene, L. O.....	Long Cane, Ga
Glessner, W. L.....	Macon, Ga
Hale, J. C.....	Winchester, Tenn

Henley, W. L.....	Ingleside, Ga
Hopkins, M. H.....	Louisville, Ga
Holt, A. T.....	Macon, Ga
Holt, Miss Ida.....	Macon, Ga
Hughes, Dennard.....	Danville, Ga
Hughes, Dudley M.....	Danville, Ga
Hughes, Mrs. Dudley M.....	Danville, Ga
Hughes, D. G., Jr.....	Danville, Ga
Hunt, B. W.....	Eatonton, Ga
Hyde, Rev. C. H.....	Cuthbert, Ga
Hunter, W. D.....	Chattanooga, Tenn
Heikes, W. F.....	Huntsville, Ala
Hillhouse, W. L.....	Calhoun, Ga
Higgins, W. F.....	Dublin, Ga
Hammock, W. D.....	Coleman, Ga
Hammock, Mrs. W. D.....	Coleman, Ga
Hickman, T. I.....	Augusta, Ga
Jackson, B. J.....	Cuthbert, Ga
Jackson, Miss Gertrude.....	Cuthbert, Ga
Johnson, R. P.....	Smithville, Ga
Johnson, Mrs. R. P.....	Smithville, Ga
Johnson, David.....	Quitman, Ga
Johnson, H. R.....	Americus, Ga
Jernigan, H. W.....	White Plains, Ga
Jackson, J. E.....	Gainesville, Ga
Jones, A.....	Cuthbert, Ga
Jones, G. T.....	Fort Valley, Ga
Jones, W. H.....	Fort Valley, Ga
Jackson, E. A.....	Cuthbert, Ga
Jackson, Miss L. P.....	Cuthbert, Ga
Justice, J. G.....	Marcus, Ga
Jennings, L. B.....	Thomasville, Ga
Johnson, J. A.....	Albany, Ga
Johnson, E. S.....	Augusta, Ga
Kollock, W. W.....	Clarksville, Ga
King, A. N.....	Carnesville, Ga
Keffer, Prof. Chas. A.....	Knoxville, Tenn
Kerr, J. C.....	Linwood, Ga
Kline, P. J.....	Milledgeville, Ga
Lassiter, L.....	Montgomery, Ala
Long, H. L.....	Leesburg, Ga
Lightfoot, H.....	Sherman Heights, Tenn
List, J. E.....	Chattanooga, Tenn
Little, Jas. C.....	Louisville, Ga
Logan, J. C.....	Rome, Ga
Luke, J. E.....	Hazen, Ga

McInnes, Dr. N.	Augusta, Ga
McRee, E. J.	Kinderlou, Ga
McRee, W. F.	Fort Valley, Ga
McKlinny, B. G.	Smithville, Ga
McNeal, Dr. J. M.	McRae, Ga
Middleton, W. S.	Clarks Hill, S. C
Martin, J. C.	Cuthbert, Ga
Miller, G. H.	Rome, Ga
Miller, J. C.	Rome, Ga
Moore, R. H.	Culverton, Ga
Moyer, O. H.	Ridge Springs, S. C
Moye, R. L.	Cuthbert, Ga
Moore, B. T.	Marshallville, Ga
Matthews, H. A.	Fort Valley, Ga
Madden, Jno. B.	Concord, Ga
Nelson, W. K.	Augusta, Ga
Nixon, G. H.	Augusta, Ga
Newkirk, D. S.	Atlanta, Ga
Newton, Dr. E. D.	Milledgeville, Ga
Newson, A. W.	Nashville, Tenn
Niblock, H. R.	Virgil, Ga
Niblock, Miss Ada.	Virgil, Ga
Payne, C. P.	Shellman, Ga
Prothro, E. J.	Richland, Ga
Paulen, J. E.	Ft. Gaines, Ga
Purdom, I. W.	Sparks, Ga
Palen, L. W.	Rome, Ga
Park, R. E.	Macon, Ga
Quaintance, Prof. A. L.	Experiment, Ga
Ryals, G. M.	Savannah, Ga
Riegel, Mark	Experiment, Ga
Ruffin, G. T.	Reynolds, Ga
Redding, R. J.	Experiment, Ga
Respass, J. L.	Mayfield, Ga
Rolf, Prof. P. H.	Clemson College, S. C
Rowland, W. M.	Athens, Ga
Rumph, S. H.	Marshallville, Ga
Rumph, Mrs. S. S. H.	Marshallville, Ga
Rumph, L. A.	Marshallville, Ga
Rumph, Mrs. L. A.	Marshallville, Ga
Rumph, L. B.	Marshallville, Ga
Rumph, Miss C. Elberta.	Marshallville, Ga
Reynolds, J. M.	Mayfield, Ga
Ruggles, F. A.	Dawson, Ga
Rosier, J. M.	Augusta, Ga
Russell, L. C.	Winder, Ga

Sanders, M. R.....	White Plains, Ga
Stubbs, John M.....	Dublin, Ga
Stubbs, Mrs. J. M.....	Dublin, Ga
Stubbs, C. T.....	Montrose, Ga
Stockbridge, H. E.....	Lake City, Fla
Stockbridge, Mrs. H. E.....	Lake City, Fla
Shields, J. F.....	Thomson, Ga
Snow, L. A.....	Indian Springs, Ga
Shadow, J. W.....	Winchester, Tenn
Shewmake, Claude.....	Atlanta, Ga
Shewmake, Marshall.....	Augusta, Ga
Smith, T. W.....	Warthen, Ga
Smith, Chas. A.....	Ashland, Ga
Smith, A. W.....	Americus, Ga
Smith, Chas. T.....	Concord, Ga
Smith, S. P.....	Winder, Ga
Scott, Prof. W. M.....	Atlanta, Ga
Shanley, J. W.....	Pine City, Ga
Skinner, J. S.....	Augusta, Ga
Stern, S. B.....	Montgomery, Ala
Starnes, Prof. H. N.....	Athens, Ga
Stevens, W. W.....	Mayfield, Ga
Snow, F. M.....	Fort Valley, Ga
Stone, B. W.....	Thomasville, Ga
Talley, M. B.....	Winchester, Tenn
Tappan, R.....	White Plains, Ga
Tappan, E. L.....	White Plains, Ga
Taunton, C.....	Cuthbert, Ga
Taylor, H. W.....	Marshallville, Ga
Troyer, Prof. A. M.....	Calhoun, Ala
Uhl, Geo.....	Augusta, Ga
Wilson, G. J.....	Moreland, Ga
Williams, A. D.....	Yatesville, Ga
Wilson, W. Lee.....	Winchester, Tenn
Waring, Geo. H.....	Cement, Ga
West, C. G.....	Fort Gaines, Ga
Willis, Mrs. W. W.....	Ty-Ty, Ga
Webb, G. D.....	Cuthbert, Ga
West, J. W.....	Fort Gaines, Ga
Weslosky, M.....	Albany, Ga
Williamson, W. L.....	Harmony Grove, Ga
Withoft, C. W.....	Fort Valley, Ga
Williford, W. D.....	Harmony Grove, Ga
Wheatley, J. W.....	Americus, Ga
Walker, Z. T.....	White Plains, Ga
Wight, J. B.....	Cairo, Ga
Wright, W. C.....	Fort Valley, Ga

Warren, R. H.....	Albany, Fa
White, H. K.....	Sparta, Ga
Wade, I. C.....	Atlanta, Ga
Wheeler, S.....	Scottsboro, Ga
Young, James R... ..	Quitman, Ga

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## HONORARY MEMBERS.

Bailey, Prof. L. H.....	Ithaca, New York
*Wilder, Hon. M. P.....	Boston, Mass
Crayton, Hon. B. F.....	Anderson, S. C
Furnass, Hon. R. W....	Brownsville, Neb
*Gray, Prof. Asa.....	Cambridge, Mass
Green, Mrs. C. C.....	Clayton, Ala
Meehan, Thomas.....	Germantown, Philadelphia, Penn
Quinn, P. T.....	Newark, N. J
*Sims, Col. R. M.....	Columbia, S. C
*Thurber, Prof. Geo.....	New York, N. Y
Hexamer, Dr. F. M.....	52 Lafayette Place, New York, N. Y
Joly, Chas.....	Vice-Pres. National Hor. Society of France, Paris
Hale, J. H.....	South Glastonbury, Conn
T. V. Munson.....	Denison, Tex
*Isidor Bush.....	St. Louis, Mo
Dr. J. Stayman.....	Leavenworth, Kansas
*Deceased.	

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## PROCEEDINGS.

The Twenty-Fifth Annual Session of the Georgia State Horticultural Society convened in the Court Room of the Baldwin County Court House, Milledgeville, Ga., at 10:30 forenoon of August 7th, 1901, President P. J. Berckmans presiding.

Prayer by Rev. J. H. Mashburn.

After which the Hon. Julius A. Horne, Mayor of the City of Milledgeville, in a pleasing and scholarly address welcomed the members of the Society. He spoke of the beneficial work of the organization during its quarter centennial of existence as having been the means of developing its fruit industry to its present magnitude, and heartily congratulated the Society upon its Silver Jubilee.

Pres. Berckmans returned the Society's acknowledgements for these friendly and warm expressions of welcome, as well as in his

own behalf for alluding to his labors as its presiding officer since its birth; and then introduced Hon. Henry A. Mathews, of Fort Valley, to respond more at length to Mayor Horne's address.

Mr. Mathews briefly reviewed the history of the Association. The pleasure of being in the old historical Capitol of Georgia, and his appreciation of the large attendance of the ladies of Milledgeville who graced the Convention, and the generous welcome which the members of the Society had received. This address was followed by a few words of acknowledgement by the Rev. W. D. Hammock, of Coleman, Ga., who strongly urged every citizen of Georgia to aid in building up it's horticultural interests, and predicted that they would out-last many of the State's other institutions.

Pres. BERCKMANS: Our Secretary has written us that owing to his late crop of fruit he would be unable to be with us, it is therefore necessary that we should elect a secretary to carry out the duties of this convention. And if it is the wish of the Society I would request that Professor Scott act as Secretary pro-tem. He is thoroughly conversant with all of our work.

Mr. HAMMOCK: I make the motion that we elect Mr. Scott by acclamation. Motion seconded and carried.

### President's Address.

*Ladies and Gentlemen, Members of the State Horticultural Society:*

What I will have to say to you after all these words of eloquence will fall rather tame upon your ears. I rejoice to say that I see amongst the audience several of those who were present at the birth of this Society. But several of our old friends have gone whence no traveler returns. Much to my gratification we have several here that I did not expect would grace this assembly with their presence, and I trust that so long as they live that we will have the aid of their counsel and advice. Last year I took the privilege as your presiding officer to say a few words in behalf of the fruit interests of Georgia, and I noticed that many newspapers misunderstood me, or did not quote me correctly. Far from me to score the fruit-growers of Georgia. It was my desire to show where the trouble lay. My remarks were based upon the inferiority of the packing of a great deal of the fruit. A large proportion of the fruit being sent to market in such condition where it could not be expected to meet with anything like paying results. It is true that we had met with very unusual seasons, the weather has been inclement particularly during June and July; these were drawbacks, besides we had been unfortunate in having so much brown rot, which caused the fruit to rapidly decay in transit. But these unfortunate occurrences, while preventing the safe carriage of fruit to Northern markets, did not exonerate careless packing. I wished to warn all fruit shippers against a recurrence of this in the future. Fortunately we have our State Entomologist to offer us suggestions as to the best methods of eradicating this disease. Now let us keep our Georgia peach where it was years ago, the highest standard of the peach that goes to the Northern markets. Do not let California bring in their unripe fruit and compete with us. They admitted to me whilst in California, that the Georgia peach is of excellent flavor, and owing to the long time required in transit theirs never have the



flavor that we get here, and they may try but they will never bring a peach into the Northern markets that will compare with those grown in Middle Georgia. I trust that what I say in regard to this packing will be taken in the very spirit that it is given. The commission merchants in New York are working for a purpose, it is true they will give you good returns, but as a matter of business they will expect to get the very best material that comes to their markets if you expect to get good returns, and unless you work in unison in this matter you cannot expect your industry to pay. Some of these commission men unfortunately try to keep as much in their hands as possible, but there are others with a more liberal spirit who are willing to work for the consumer as well as themselves. My attention was drawn the other day while I was going on board the "Kansas City" in New York to a shipment to the South of several thousand packages of ketchup. It is a small matter, but when I look at the beautiful tomatoes that we have here on exhibition with us I begin to ask what is to prevent us from utilizing our own vegetables for making ketchup and other commercial products at home instead of sending to other parts of the country for what we could make just as well, out of our own products. The industries that are connected with horticulture are many, but it seems to me that if we understand our interests that we should never depend on other parts of the country when we can grow better products at home. The matter of utilizing these products in a commercial point of view is another question of importance: The above is not the only undeveloped pursuit that you have, you have many, and one of you gentlemen, will no doubt ere long consider that you have a Klondyke in your hands in connection with the growing of certain horticultural products for commercial purposes. We have also many industrial operations that we do not pay enough attention to; for instance, a few years ago we were compelled to go to Michigan for our fruit crates, but since then we have found that we can produce crates as fine as can be produced anywhere. The question of transportation has so many points about it that it is impossible for me to touch upon it. Transportation will settle itself. Therefore I will leave it entirely to the special committee which has been appointed to investigate this matter of getting our fruits to the Northern markets in the best, quickest and cheapest way. Last year we devoted a great deal of our time to the discussion of preventative measures against noxious insects and diseases. We find that we cannot use the larger part of our time to better advantage than in discussing this necessity of taking heroic measures, and we can then be assured of reaping the benefits of our work. Many of you have taken preventative measures against brown rot especially, these measures were only carried out partly as they should have been. Our State Entomologist who knows all about the work that has been done informs me that several of our leading orchards are being sprayed, but not being sprayed sufficiently, consequently you have not reaped the benefit that you would if the spraying had been more thorough. Therefore we will obtain a good deal of valuable information from the report of Prof. Scott, and the lecture to-night which will be illustrated by lantern slides—no better object lesson could be given. The fungus and noxious insects will form the subject of the lecture tonight. I spoke a moment ago about the manufacture of fruit crates: it was always supposed that a certain kind of wood only was available, and that the natural supply of that wood was disappearing from our country. This brings the matter of forestry before our Society, which has been discussed but only touched upon. We have in our State of Georgia quite a large body of natural forest left, but it is disappearing so fast that the time may come when you will fall short of material for the manufacture of your fruit crates. It stands to reason that where you always destroy and never replace that the supply must eventually become exhausted, and I hope that amongst our discussions that the question of forestry and reforestation of our lands will be touched upon. Pardon me if I ramble in my talk, it is merely my intention to point out subjects as will bring about benefits to the fruit growers and horticultur-

ists. Peach growing is one of our main objects, but it is true that we have also many others, and especially floriculture. When I behold such splendid specimens as I see before me this morning I see that your education is on a very high plane, and no one can better bring that high plane of education amongst us than the ladies. We men may look to the substantial of life but they look to the aesthetic. We thank you most cordially and we know that we are inspired to day in our work by the grand and beautiful display which you have so artistically arranged in this hall, and I thank you very much for your kindly interest under which I can rest assured that this Society will live forever. (Applause.)

Sec. SCOTT: I have here a letter of invitation from the Georgia Military College which I will read:

GEORGIA MILITARY COLLEGE,  
MILLEDGEVILLE, GA.  
OFFICE OF THE PRESIDENT.

*To the State Horticultural Society in session at Milledgeville, Georgia:*

MR. PRESIDENT AND GENTLEMEN: I have the honor to extend to your Society a most cordial invitation to visit the Georgia Military College while in the City. The School occupies the old Capitol, a historic building, a visit to which will no doubt be of great interest to all the members of your Association. I hope the members of the Society will feel at liberty to come on the grounds and through the building at any time that may suit their convenience. Some one will be on duty in the building throughout the day and will take pleasure in showing visitors through.

Wishing for your Association a pleasant and successful meeting, I have the honor to remain,

Yours very truly,

WM. E. REYNOLDS,  
*President G. M. C.*

Pres. BERCKMANS: Owing to the absence at the last moment of many of our members who promised to offer papers, we labor under a great deal of difficulty in making up a program such as we expected, we are rather limited at this moment. So we will have a paper which was to have been presented this afternoon from our friend and co-worker, Prof. H. B. Buist, Horticulturist of the Winthrop Normal and Industrial College, Rock Hill, S. C., who has taken up his life work in instructing in horticulture, and I know that he can give you some valuable information. Before Mr. Buist begins I would like to say that it has been customary to name the committees for the examination of the fruit exhibited and the other committees at the morning session, but as there are so many of our members absent I would ask that we delay this matter until after the morning session, and if the Secretary will get a list of the members present I will then select the different committees.

*Mr. President, Ladies and Gentlemen of the Horticultural Society of Georgia:*

It is with great pleasure I address you upon this occasion,—you, the representatives of a certain line of industry of a great and grand State,—you, whose occupation is one man was created to engage in,—you, whose employment makes the world

more pleasant and fills the heart with joy and happiness, should take pride in your calling.

The subject I am asked to speak to you upon on this occasion is: "The Benefits of a Course of Horticulture in Normal Colleges." When God created man he placed him in the Garden of Eden to tend the garden. These children of God were placed in this school garden to learn to care for plants, trees and flowers. So we see that from the very beginning of the recorded time the first lesson taught to man was a Horticultural lesson; The first school or college was in the Garden of Eden, and the first teacher was God, the Creator of the Universe. With what satisfaction and pleasure these children of a kind and loving father viewed all he had done for them. Now, our desire is to bring about a condition of contentment and happiness around our homes, and to do this we must teach and train our sons and daughters to become experts in their knowledge of Horticulture. Teach them to become doctors of plants, trees and flowers; teach them to mix and compound suitable plant food, suitable plant medicine; teach them to know and love plants like a mother loves her children; teach them to clothe the naked earth with grass, the sun-bright land with shade and shadow; teach them to plant the valleys, hills and plains with those plants most suited to them, that our earth may become beautiful and inviting.

To reach this condition whereby our people shall be properly taught to become intelligent Horticulturists we must have a plan—this plan must be so arranged to reach the pupil when the mind is in its formative state that it may feed and grow upon that nourishment that shall be the means of directing its after life. A subject of such great importance as this of Horticulture requires a firm foundation. It should spring from the intellectual hills of experience, care and observation. Science with her ever watchful eye should be our handmaid, and with these helps along your path, you Horticulturists of Georgia have made an enviable reputation for yourselves. In our Normal Colleges we should provide a course of Horticulture where applied Botany and Chemistry is carefully taught to those preparing themselves for teachers in our common schools, as well as to those who desire this knowledge for their own use. A course of Horticulture where properly taught, where the practical application of the information acquired in the classroom is brought in use in the propagation house or the open air garden will be of vast importance and benefit. In this mode of teaching the ear has heard, the eye has seen, the mind has digested and the hands have performed.

"Ten years ago Austria had eight thousand school gardens where the pupils received practical instruction in the growth and care of flowers, fruits and vegetables.

"France has nearly thirty thousand of these schools.

"Sweden grafted the school garden upon her public school system more than thirty years ago, and each of her public schools has been allotted from one to twenty acres of ground for gardening purposes.

"Russia of to-day is making gigantic efforts for self-improvement and has two hundred and twenty-seven garden schools in one province.

"England has been slow to take up the school garden work, but of late years she begins to see the need of it and a number have been started in some of her villages."

But what of America? Shall we be behind any nation of the world? I trust not. Ours is a fruitful land. The home of the free and brave. Let us utilize our great resources and looking forward to the highest and best interest of our country prepare in our Normal Colleges teachers with the knowledge of Horticulture and the ability to teach it, so that our youth will grow up prepared for their life's work.

Pres. BERCKMANS: The Treasurer desires me to announce to the assembly that if you will come forward at the end of the session and hand him your certificates of transportation he will have no

difficulty in having these validated with the railroad agent. Unless these certificates are countersigned by the Treasurer you cannot participate in the reduced fare on returning to your homes.

The program for this afternoon will be a paper from Prof. Scott; the lantern slide lecture will not take place until after dark, and I hope that our Convention will be graced by the presence of the ladies. You have accomplished the growing of some of the finest plants that can be found in the State of Georgia. Prof. Scott wants to give you such suggestions and such instructions as will prevent these plants from being attacked by insects, and therefore his talk will be as valuable a botanical lesson that you can receive and nothing can be better brought before you than by these demonstrations.

I desire to enlist in our working force as many of you who feel an interest in the success of this organization and the educational progress of the State. We are perhaps presumptuous in expecting that we can do some good for the cause of education, but I have seen a great many evidences of this fact before me.

Mr. RYALS: I notice that a great many of the audience are leaving and I wish that a motion be made to extend a cordial invitation to the citizens of Milledgeville and particularly the ladies to attend all the sessions of the Horticultural Society, and to participate in any of the debates.

Pres. BERCKMANS: Thank you for the suggestion, I will act upon it in an official manner. Ladies, excuse me for being so forgetful. We will be more than honored if you will grace our meeting with your presence at all of our sessions, they will not be long, and we will try to make them as instructive to you as possible. Our session this morning has been taken up in getting started, and we are somewhat handicapped by the absence of many of our members who had promised to give us papers, but we will try to have it all arranged when we assemble again this afternoon.

I have been informed by his Honor, the Mayor, that we are requested to adjourn in a short while, but we still have three-quarters of an hour to devote to the organization of the different committees. This Society when it began its life did not cater to individual interests; it was organized for the good of the country at large, and therefore premiums, medals and diplomas were never offered. It was contended that this Society could not live unless we offered money premiums, but we have gotten along so far without this plan, and the only thing that we can give is the commendation of the committees showing the superiority of the fruit and vegetables

exhibited. We have been noted all over the United States, perhaps, for the largest exhibitions of grapes that were ever exhibited. I notice that we have no exhibit of grapes from the State Experiment Station this year such as we have had heretofore. Last year we had an especially fine exhibit showing some of the original typical varieties and the improvements that have been made on these varieties, demonstrating what good work can do.

Col. REDDING : Perhaps I had better state at this time why it is that the Station has no exhibit. It is simply because we have no horticulturist; our State has permitted the Maryland State College to take him from us, and we have had no one to take charge of and make an exhibit as we have done during a great many years past. In addition to this we have destroyed one acre of our vineyard, having completed the work, and have planted another crop on this ground which is not yet in fruit. This accounts for the fact that we have no exhibit.

Pres. BERCKMANS : It is to be regretted that we have lost one of our very efficient officials of the Experiment Station, and in this connection I may say that it was a credit to him that another state found out his qualifications and offered him better inducements to obtain his services. This matter of salaries of officials is a question that ought to go before our Legislature. It is very seldom that we have a man who is an expert in certain branches of science that can be induced to stay with us. You are now laboring under a difficulty, you have no horticulturist, nor have you a dairyman. Two branches of your Station are entirely out of joint, therefore it behooves not only the officers of the Board but the people at large in the State of Georgia to fill this deficiency they should assist the efforts of the Experiment Station by endeavoring to give at least such appropriations as will fill that great necessity. In other words, you cannot expect first-class men without first-class salaries, and you have had an evidence of this fact by the loss of Prof. Quaintance, who was one of the most valuable officers that we have had. Georgia has produced many eminent men, but Eastern and Western institutions take them away from us. They appreciate their value to such an extent that they offer them higher salaries to secure their services. And I hope that when this matter comes before the State Legislature that they will appreciate the fact that when we lose the services of these scientific gentlemen it is very hard to fill their places.

Col. REDDING : I wish to express my thanks for your remarks, Mr. President, and hope that this will prove a lesson to those present, and that they will endeavor to get the Legislature to act in the direction indicated. In such case, of course, we would no longer be able to say that the people of Georgia are not taxed to support the Experiment Station. I have thought that it might be well if the people *were* taxed; they would then appreciate the Station work more highly than they did when they were not taxed at all to support it. Why, Mr. President, I have found that some of the most intelligent men in the State were not aware of the fact that the Experiment Station is supported entirely by an appropriation from the U. S. Treasury. The State makes a small appropriation to pay the actual traveling expenses of the Board of Directors, about \$500 to \$600 dollars per annum, while the U. S. Government appropriates \$15,000 per annum.

Pres. BERCKMANS : I have completed the list of special committees which I now announce:

COMMITTEE ON PEACHES, PLUMS, APPLES AND PEARS.

C. T. Smith,	Rev. W. D. Hammock.
H. A. Matthews,	Henry Banks.

COMMITTEE ON GRAPES.

C. Deckner,	J. S. Skinner,
H. B. Chase,	Jno. P. Fort.

COMMITTEE ON VEGETABLES, MELONS, NUTS, ETC.

G. M. Ryals,	A. F. Holt.
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COMMITTEE ON FLOWERS AND PLANTS.

B. W. Hunt,	Miss Ida L. Holt,	R. C. Berckmans.
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Mr. HUNT : I believe that in order to serve on the committee to which you have appointed me that I will have to come here this evening and I am afraid that I will not be able to come.

Pres. BERCKMANS : It will not take you long to do the work of your committee, and I think you can readily serve. I know that the committee will be delighted to have you. Individually, I will thank you if you will serve.

As I stated awhile ago, we offer no premiums; we offer only our commendations whenever the exhibit is worthy of it, and we desire to have with the report of the committees the special mode of cultivation which has been practiced to bring about the results shown

by the exhibits. These committees will report to-morrow morning, making their examinations at their leisure between now and then.

Mr. HOWARD: Mr. President, I am not on the program to make a speech, but I am going to make one in behalf of the good women of this town and county; therefore, I am requested to state, Mr. Chairman, that the good ladies of this town have prepared a dinner which is on the first floor of this building, and they give you a cordial invitation to come and partake of a fine old Georgia Barbecue and Brunswick Stew. (Continued applause.) They always prepare the best, the good women do, and I feel safe in saying that you will enjoy this nice, capital repast which they have so graciously furnished for this occasion. (Applause.)

Col. STUBBS: I desire the members of the Executive Committee now present to meet me in one of the ante-rooms right now.

Mr. HAMMOCK: I make a motion that we adjourn the morning session, to convene again at three o'clock this afternoon. Seconded and carried.

Pres. BERCKMANS: Gentlemen, we stand adjourned until three o'clock this afternoon.

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### AFTERNOON SESSION.

Convention was called to order at 3:00 o'clock p. m., Aug. 7th.

Pres. BERCKMANS: The first business on the program is a lecture by Mr. John P. Fort, on "The Necessity of Preserving Insectivorous Birds from the Standpoint of the Fruit-Grower."

#### **The Necessity of Preserving Insectivorous Birds From the Standpoint of the Fruit-Growers.**

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BY JOHN P. FORT.

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Our worthy and well-beloved President requested of me that I speak to the fruit-growers upon a subject of interest to them. I have chosen the subject of Insectivorous Birds. But before approaching this subject it may not be amiss to also speak a few words upon the subject of Entomology.

Entomologists divide insect life into seven great divisions, with many sub-divisions. One of these classes, called the Coleoptera, are divided into more than two hundred thousand distinct species. It may safely be said that there are more than a million distinct species of insects. It is, therefore, impossible to touch upon this subject even in the most casual manner; but a mention of the names of a few of the most noxious insects and injurious to the fruit growing industry may not be inappropriate.

The San Jose scale, the curculio, shot-hole-borer and root borer as enemies to the peach, cherry and plum. The codling-moth, bark-borer, aphid, tent caterpillar and

canker worm as enemies of the apple as well as to several other fruit trees. Each one of these insects with the exception of the scale, forms a food for insectivorous birds both in the larvæ, pupa and perfect state, and is especially agreeable to them. The scale alone escapes by reason of its minute size. The insects mentioned destroy many millions of dollars worth of fruit yearly for the American fruit-growers. To give one example: A few years since the fruit in a peach orchard in Southern Georgia was beginning to ripen. The owner valued his crop at \$20,000. He refused \$9,000 for the output. In three weeks' time it was entirely destroyed by the curculio. Only three cars were shipped from the orchard, thus resulting in a loss. In their perfect state all this class of injurious insects take flight in the air before mating, and at the time of mating and while in the air during the early Spring are the prey of a class of our insectivorous birds. I will take for example one specimen of each of the most deleterious to the peach and the apple. The curculio, a small brown beetle of the order Coleoptera. The codling moth, a small brown moth, a miller of the order Lepidoptera. The number of either one of these insects that would be consumed by a fly-catcher or swallow in a single day would be enormous, running up into the thousands. It must be recollected that the destruction of a moth or beetle in the early Spring is the destruction of a great colony. The increase from one of these insects from Spring to Fall, if undisturbed and with suitable surroundings, will increase from one pair to tens of thousands. The agency of birds in keeping in check insect life injurious to man is so great that a French scientist has estimated that noxious insects would so overrun the earth in nine years that it would be uninhabitable to man unless for birds. I could weary you with the estimates of the number of insects daily destroyed by a pair of birds in feeding themselves and their young. The dissection of a wood-pecker's stomach has been found to contain more than 1,000 wood lice; kill any one of our fly-catchers in the Spring or Summer season and careful dissection will show from two hundred to five hundred midges, gnats and other small insects in their stomach. Watch a small pee wee fly-catcher upon a summer evening sitting upon a dry branch of a tree or stake, and he will average flying in the air every two or three minutes for hours. At each snap of his bill the life of an insect ends. Watch one of our night hawks, known as the bull bat, of the family of goat-suckers, flying over a field or around a stack of wheat. At each curl of his wing a wheat weevil is destroyed. When a boy I have thoughtlessly shot them while in their useful employment, and have found great masses of weevils rolled into pellets in their mouths. Seemingly destroying more than they can consume, although the bodies of this class of birds is but a mill for the grinding of insects.

I will class as first in importance of our insectivorous birds that class that migrate to the tropics in the Fall and return in the early Spring, and feed entirely upon insects in the air. Our Martins, Swallows, Night hawks, Whippoorwills and Chuck-wills the widows. These birds arrive in our State from the tropics early in the Spring, and keep in check and destroy immense numbers of noxious insects when they first burst their pupa cases in the Spring. This class of birds all have a gelatinous saliva that covers their throat and mouth, and adheres to the gauze wing of an insect making it impossible to escape when caught. The most interesting of this class of birds is the American Swift or chimney Swallow, upon which an entire lecture might be made with interest. It is the only bird that never alights except upon its nest or roost. The next that I cannot forbear mentioning is our common Purple Martin, of the class Hirundo. All orchards should have attractive nests made for them. The most common and satisfactory is made from the calabash. All this class of birds should be rigidly protected by law.

The next in importance to our fly-catchers is the Pewit, Kingbird, Crested blue grey, etc. All this class of birds destroy insects upon the wing, from the largest Coleoptera to the gnat and mosquito. The small blue grey Fly-catcher seems to exist upon a class of insects represented by the gad fly, midge and mosquito.



Next, the insectivorous bird that destroys the noxious insect in its pupa and larvæ state is the common Blue bird, with a large class of our field and Wood Warblers represent this type. It must ever be kept in mind that predatory preying and parasitic insect that are useful to man are not sought for by insectivorous birds. A chicken walking among the clover blossoms with honey bees gathering honey from them will not touch them, but let a Grasshopper or June bug appear and behold the change.

The next in importance is the large Thrush family, whose special provender is the worm in the grass and under the soil; the Wood-Pecker, whose province is the worms beneath the bark of trees. These two families, the Thrushes under the head of the Murillo family, and the Wood-Pecker under the head of Picus, are of use beyond conception to the fruit-grower and agriculturist. I will make but one illustration to show how often we attribute injury to birds when the opposite is the effect: I saw a common Redhead Wood-Pecker alight upon the end of an ear of green corn in a farmer's field and commence to give a few pecks upon the end of the ear to obtain the cut worm that was eating his corn. He said to me that he was employing a boy to shoot these Redheads that were destroying his corn. Upon examination I proved to him that the bird was not eating his corn but destroying the corn worm, also that at least three or four per cent. of his corn was being destroyed by this worm. This same worm when it arrives in its perfect state, as a moth, is the parent of the cotton boll worm.

The many varieties of Wrens, Titmouse, Greenlet, Kinglets, and a great number of small creeping birds under the class of Cythias, form a great part in the economy of nature to keep insect life in check. These small birds are very destructive to all kinds of plant lice, spiders and other minute insects, each bird destroying many hundreds and often thousands each day. Especially is this observable when the parent birds are feeding their young. Sit by a nest of half-grown thrushes, flycatchers, blue birds or other insectivorous birds, and the old birds will average every five minutes during the day bringing to their young an insect, and often a dozen or more at once, in the shape of a pellet, of plant lice. From this some estimate may be made of the number of insects destroyed by our insectivorous birds.

Our Legislature should protect this class of birds by strict enactments. Our ladies should refuse to wear their skins as ornaments. They are our friends and protectors, placed on this earth for a great and good purpose. The increase of noxious insects are startling our entymologists. We should love, cherish and protect our insectivorous birds.

In my opinion the fruit-growers of Georgia ought to request our Legislature to protect our insectivorous birds. For example, nearly every one of you could bring up a similar case, near my old home some little negroes were back of the house and I had some Blue bird's nests in my garden, and I noticed one of these little negroes one day and he was sucking one of the bird's eggs. But we all know how likely boys are to rob the nests and destroy the young of the birds that have built nests in our gardens. The destruction of the root-borer, and the shot-hole-borers and the curculio by the Martins or Swallows in early March would mean the destruction of thousands of insects later in the Spring, and the importance of birds in our orchards at that time is beyond compare in my opinion.

Gentlemen, you have honored me with your attention, I have given you my words, and I hope you will take them for what they are worth.

Mr. PARKS: I move that we return thanks to Mr. Fort for his interesting lecture. Carried.

Pres. BERCKMANS: I would say that this question is a matter of great interest to the fruit-grower and ought to be taken before our

Legislature. Our Entomologist has a great deal to do and if he has the birds to assist him in his work then of course he will be able to give more of his time to other departments of his work.

### Discussion Upon the San Jose Scale.

Pres. BERCKMANS: In the order of business we will now have a report from our State Entomologist, Mr. W. M. Scott.

Mr. SCOTT: Mr. President, Ladies and Gentlemen: I have no prepared report to make, and as our adjournment is set for five o'clock I will not detain you long. To give a full report upon the work of the Board of Entomology against injurious insects and diseases would require a longer time than can here be devoted to this subject; we will, therefore, only briefly touch upon the more important problems that have demanded our attention since the last meeting.

It is needless to say that the San Jose scale is still the paramount pest, requiring the greater part of our time. In 1898, when this work was first taken up, a general inspection of the orchards of the State was made in order to locate the points of scale infestation and to institute a fight against this pest. Many of the infested localities have been re-visited from time to time as conditions required, and in the early part of the present year another systematic inspection of the orchards was commenced. This work has progressed very slowly owing to its tediousness and the many interruptions caused by local outbreaks of other pests that required attention. The recent addition of an assistant to the working force has greatly facilitated the work, but a half dozen men are needed and could be economically used. Few realize what a formidable undertaking it is to inspect 10,000,000 trees distributed over a large territory, and to enforce the treatment of 1,240,000, the number which our records show to be infested.

The accompanying map shows the distribution of the San Jose scale in Georgia, the red dots indicating the infested districts, according to our records. From a glance at this map it will be seen that the scale is generally distributed over the Southern portion of the State, while in the Northern portion there are comparatively few cases. When further investigation is made South-East Georgia will probably show a much greater infestation than is indicated on the map. That section has not yet received a thorough inspection for the reason that we have thought it wise to look after the more important fruit sections first.



As is already well known, the notorious Waycross nursery (in Ware County) furnished the infestation for practically all of the South Georgia cases. It seems that the scale came to this nursery from New Jersey about 1889, and was sent out on infested stock every year for about eight years. However, the Tifton section (Berrien County), owes its infestation to a local nursery which also

seems to have imported the pest from New Jersey. It appears that the Thomas County cases were established direct from California, through a local nursery. The North Georgia cases were introduced principally from Maryland and Tennessee.

It is very gratifying to be able to announce that the San Jose scale is being successfully controlled, and that in the light of our present method of treatment the fruit-growers need not suffer materially from the ravages of this pest. I will cite a few cases of the successful treatment of scale, as follows: An orchard of 14,000 peach trees belonging to Col. John M. Stubbs, of Laurens County, became infested about six years ago, and when I first saw it three years ago it was apparently almost beyond recovery. For the past three years it has received two applications of 20 per cent. kerosene each winter. As a result it now takes an expert to find any living scales in that orchard. The orchard of Mr. Hughes, in Twiggs County, had about the same history, and has been treated with almost equal success with only one annual application of 20 per cent. kerosene. Indeed, the scale was so thoroughly killed out in this orchard that it was not necessary to treat last winter. It has, therefore, gone over two seasons without treatment, and yet the scale does not show up to any serious extent; sufficiently, however, to require treatment next winter.

The scale has been in Houston and Macon Counties, the great fruit centre of Georgia, for at least six years. Three years ago it was necessary to dig up an orchard of 30,000 trees in this section on account of the scale, and vigorous measures were adopted to get the mastery of this pest. While many of these orchards are infested none are suffering any material damage. The fruit-growers of this section are wide-awake to the situation and no doubt will effectually hold the scale in abeyance.

Most of the North Georgia cases have been limited to a few isolated trees which were destroyed immediately upon the discovery of the pest. We have one exception, however, in Mr. Fort's orchard, in Habersham County. In this case a large orchard was involved and the kerosene treatment was adopted.

Mr. FORT: I would like to state in this connection that I have nearly eradicated the scale from my orchard.

Mr. SCOTT: Mr. Fort is quite right; he has been eminently success in combatting the scale. It was discovered in his orchard last fall, and upon investigation it was found to be generally distributed

over a considerable portion of the orchard. We immediately ordered a spray pump and Mr. Fort began spraying early in the winter with a 15 per cent. strength of kerosene. After a lapse of a few weeks I visited the orchard to note the effects of the treatment. If an estimate in percentage is admissible I would say that 95 per cent. of the scale was found to be dead. During January and February a second application was made, using a 20 per cent. strength of kerosene. Only recently Mr. Fiske, Assistant Entomologist, was sent to make some final notes on the experiment, and he reported that after a careful examination only two living scales could be found on the treated trees.

When scale insects can be counted on one's fingers they certainly do not exist in dangerous numbers. It should not be understood that only two scales were in the orchard, but the results are certainly as good as can be obtained with any form of treatment. The lesson to be learned from this is that there is no excuse for any man to allow his orchard to be destroyed by the San Jose scale when such a simple remedy is at hand. It should be understood, however, that Mr. Fort is a very careful man and that his spraying work was thorough. An inspection of the untreated part of his orchard may show further infestation.

Mr. FORT : Now about the kind of pumps to use and the cost of spraying.

Mr. SCOTT : I have some lantern slides illustrating the different styles of spray pumps and nozzles and we will take this subject up to-night. So far the Gould Kero-Water pump has given the greatest satisfaction.

Mr. McNEILL : Have you found the scale in Wayne County?

Mr. SCOTT : We have no case on record from this county, but from the location I would expect to find it there. The fact is I have been in Wayne County very little.

Miss HOLT : I should like to ask if you have experimented with the sulphur and lime treatment for the San Jose scale.

Mr. SCOTT : We have found that this treatment is not effective in this climate.

Miss HOLT : My experience is that I went out to visit the orchard and found that one of my trees was very badly infested with scale. I treated the trees with this sulphur and lime mixture and it redeemed the tree. I only used it one time. It was the only tree infested, but I was thoroughly satisfied with my experiment. I wanted to know where you had tried it.

Mr. SCOTT : The experimets were made at Tifton and proved unsatisfactory. Even were it effective I think it would have no advantage over the kerosene treatment.

Mr. HUNT : I would like to ask the question, what about the surrounding trees that would harbor the scale, such as the persimmon?

Mr. SCOTT : As a rule the San Jose scale does not infest forest trees, but the persimmon is subject to infestation.

Mr. HUNT : There is one other question I would like to ask. Will the scale if spread by the birds and forest trees make connection and cover the whole State, is it likely that this will happen if we exercise care?

Mr. SCOTT : The natural spread of the scale will inevitably continue, and in the course of many years it is likely to become established in every section of the State. At present, however, it is making very little progress, and with our regulations governing the inspection and handling of nursery stock we are preventing the dissemination of this pest from that source. Predaceous insects and parasites are also coming to our aid. In many cases they have already appreciably reduced the scale. The most important of these are the twice-stabbed lady-bird, the pitiful lady-bird, the Florida fungus and another unnamed fungus common in scale infested orchards.

Mr. McNEILL : Are any trees proof against scale, such as the pecan and English walnut?

Mr. SCOTT : The pecan, English walnut and other nut trees are subject to infestation, but as a rule these plants are very resistant. The scale thrives very poorly on pecans.

Mr. PARKS : Would you advise spraying an orchard before the scale develops in it?

Mr. SCOTT : Only where there is reason to suspect the presence of scale. If it is fairly certain that no scale is present, then there is usually no need for spraying. No manner of spraying will prevent the introduction of scale into an orchard.

Our instructions for the treatment of infested orchards may be summed up as follows : Our experience during the past four years has shown conclusively that the San Jose scale will yield to proper treatment, and that infested orchards can be kept in fair condition. It is a mistake to attempt to select and spray the prominently infested trees and entirely omit the general treatment of the orchard.

It is an equal mistake to attempt the eradication of a case of scale from an orchard by destroying all trees that show the presence of scale, omitting trees that are apparently free.

It should be remembered that spraying can be done without injury to the trees only in fair weather, and during the winter the number of days suitable for spraying is quite limited. Hence the importance of beginning operation in the fall. If spraying is delayed until spring, weather conditions usually make it impracticable to get over a large orchard with two applications, and in some orchards last year the trees were blooming before the first spraying had been completed. After the trees begin to bloom spraying must cease until the crop is gathered.

**Digging Up Infested Trees.**—A newly established case of scale in a neighborhood formerly free may be exterminated by the destruction of all trees involved. By such heroic treatment a neighborhood may be freed from this pest, provided it is discovered and the trees destroyed within a few months after its introduction. Aside from cases of recent and limited infestation the digging-up method is resorted to only where there is strong hope of preventing or delaying the spread of the scale to neighboring orchards. By a prompt destruction of a few hundred trees under certain conditions the progress of the scale may be materially checked and its spread over an important fruit section delayed two or three years. Under any circumstances all trees in a dying condition and beyond recovery should be dug up.

**The Kerosene-Water Treatment.**—Many substances have been used in our experiments, but the kerosene-water treatment still proves to be the best. For the application of this remedy is required a spray pump specially fitted to mechanically mix kerosene and water in the act of spraying. These machines are so constructed that the desired percentage can be regulated quite accurately.

For winter spraying a 20 per cent. strength of kerosene is recommended. This strength is effective against the scale and is attended with little danger of injury to the trees. An infested orchard should receive at least one annual application and in bad cases two applications during the course of the winter are required to bring the scale under control. The spraying may be done at any time during the winter, but one should begin in time to finish the work before the trees begin to bloom. If two applications are to be made it is a good practice to make the first early in the fall as soon as the foliage is shed. At that time in this climate the insects are still in

an active condition and much more readily destroyed than later when they become dormant. It is true that the danger of injury to the trees is less in late winter or spring, but I have never observed any particular damage from the fall spraying.

The mixture should be applied in a fine mist and every portion of the infested tree should be moistened from the ground to the tips of the twigs, but care should be taken not to allow the mixture to run down the trunk and collect about the base of the trees. It should always be borne in mind that an excess of the mixture applied to a tree will in many cases produce death, particularly to peaches and plums. The usual caution to avoid spraying on damp and cloudy days should be observed; neither should spraying be continued in the evening after sunset. The conditions should always be favorable to a rapid evaporation of the kerosene, else injury to the trees may result.

For summer treatment a 10 per cent. strength of kerosene with water is recommended. This is very useful to check the progress of the scale in an orchard that has not formerly been properly treated, until a winter application can be made. A particularly favorable time for its application to peach and plum trees is immediately after the crop is gathered. The scale is then about at its maximum breeding rate and the application will largely destroy the young larvæ and the breeding females. Not over 10 per cent. kerosene, and the leaves should not be left dripping. In our experiments with this remedy it was noted that, notwithstanding great care, some of the peach leaves were scorched around the margins and "shot-holed," but this slight injury apparently did not result in permanent damage to the trees.

**The Crude Petroleum Treatment.**—Crude petroleum can be substituted for the refined oil in the spring treatment of the San Jose scale. It should be applied in mechanical mixture with water in exactly the same way as kerosene is used and with the same cautions. In our experiments with this substance it was quite definitely determined that a 25 per cent. strength was safe to use on peach and plum trees and that the crude petroleum was even more effective against the scale than the same strength of the refined kerosene. The pure crude oil and mixture of a strength greater than 50 per cent. either killed or severely injured all trees sprayed. It was not found necessary, however, to use over 25 per cent. to destroy the scale. The oil remains on the sprayed trees two or three months and evidently prevents the young insects from attaching



themselves to the bark. It, therefore, acts as a preventative as well as a curative.

Oil with an asphaltum base is not suitable for spraying purposes. The paraffin oils, registering  $43^{\circ}$  to  $45^{\circ}$  on the Baume oil scale should be used. In our experiments the Pennsylvania crude oil, handled by the Standard Oil Co., give the best results.

**The Whale-Oil Soap Treatment.**—Whale-Oil Soap is very useful in the treatment of family orchards where only a few trees are involved. It should be used at the rate of two pounds dissolved (by boiling) in one gallon of water and applied during the winter or early spring. It can be applied either with a mop or while warm with a spray pump.

My time is now about up, and the program calls for a discussion of the brown rot problem.

Col. STUBBS : That subject is one of the most important, if I am not mistaken, the most important subject that we have to deal with. It has been demonstrated that we can control the scale; now we want to demonstrate how we can control the brown rot. I would suggest that Mr. Scott postpone any discussion on that subject until to-morrow. It is a very important subject, and I do not know of any subject that this Society can devote its entire time to so much profit. I would like to ask that it be taken up to-morrow, thoroughly gone into and get all the experience on it. What is brown rot? what is the treatment for it? and is there any way to prevent it? let us know. I am speaking from personal experience, very sad experience. I have lost two crops from brown rot which injured me thousands of dollars.

Mr. HUGHES : Did you not make a crop in 1895, and perhaps you and two other growers were the only ones that did make a crop?

Col. STUBBS : We did have a most exclusive stock in 1895, and I noted that you did not have any, for you had to go down to my place to get some to eat. Now you have not the brown rot and I have. I suggest that it is the all-important subject, aside from the marketing and transportation of the fruit, these are the questions we have to contend with; the San Jose scale can be controlled. We have not been able to control the brown rot. And I hope that it will be set down for discussion to-morrow at some stated hour.

Mr. PARKS : I second the motion of Col. Stubbs and move we adjourn.

Mr. HATCHER : I move we take up this question of brown rot in the morning. Carried.

Pres. BERCKMANS : The motion has been made that we adjourn now to meet here again at 7:30 sharp, to listen to a very interesting lecture by Profs. Scott and Fiske, on "Noxious and Beneficial Insects," to be illustrated with lantern slides. Please be here at 7:30 to open the meeting so we can adjourn about 9:00 o'clock, when in response to a kind invitation of the ladies we are requested to join in a reception. The house now stands adjourned until 7:30.

### NIGHT SESSION.

The Convention was called to order at 8 o'clock p. m., August 7th, by President Berckmans.

Mr. BERCKMANS : I again have the pleasure of introducing to you Prof. Scott, our State Entomologist, who will now entertain you with a lecture on obnoxious insects, accompanying his lecture with a beautiful series of lantern slides.

\*Mr. Scott first exhibited the San Jose scale in various stages and conditions together with allied species for the purpose of showing the growers how to distinguish this pest from its closely related species.

The insects injurious to the peach were taken up in some detail, giving the life history of the most important species with remedial suggestions. Mr. Scott related an interesting experiment in which it was shown that the curculio could be successfully controlled by the jarring method. It was his opinion that thousands of dollars could be saved every year even with this expensive and tedious method. He showed, too, that the curculio was an effective aid to the development of the brown rot, hence the double importance of fighting this insect. The peach tree borer and the fruit bark beetle were among other peach pests that were illustrated.

The insects injurious to the apple were then taken up, and the coddling moth in all its stages was shown in colors. The life history of this apple pest was briefly discussed and young fruits illustrating just when to spray were thrown on the screen. Illustrations of the flat-headed apple tree borer, the round-headed apple tree borer and various species of plant lice were exhibited and discussed. Probably the most important part of the lecture was the illustrations and discussions of the various styles of spray pumps and nozzles, the object of which was to aid the growers to wisely select the proper apparatus for the treatment of their orchards.

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\*The lights being extinguished for the use of the lantern this lecture could not be taken by the reporter and only a brief synopsis is here given.

## Noxious and Beneficial Insects.

BY PROF. W. F. FISKE.

*Mr. President, Ladies and Gentlemen:*

One might easily suppose from the nature of Mr. Scott's remarks that the vast number of insects that surround us on every hand were, on the whole, a curse to mankind; but the subject of Entomology, like every other, has a good as well as a bad side. There are good as well as bad insects, and I will attempt in the brief time that I have to tell you of some of them, and illustrate my remarks with a few lantern slides. In the first place I would like to impress upon you all that the number of insects whose influence is beneficial to man is nearly or quite as large as those of a contrary nature. They are present and at work everywhere; but as their habits are less well known, and as their manner of life is often such as to render them inconspicuous, they are apt to be overlooked, and the good that they do unrecognized. The benefits that we derive from them are derived into several classes widely different in their nature, but perhaps there is none that is of more vital interest to the fruit-grower than the influence which large numbers of them are constantly exerting to keep down the pests that would otherwise work havoc in the orchard. This is recognized in part, but usually only in part, for the work they do is largely passive in its nature. It consists not so much in keeping in bounds the foes that are already known as serious enemies to the crop, though they do much towards this; but in keeping reduced to practically harmless numbers the species that might, if allowed to increase untrammelled, prove equally destructive. I might mention many cases in illustration of my argument, as for instance among those infesting the peach, the bud worm, twig borer, leaf-folder, flat-headed borer, and a dozen others that are never noticed except in rare cases simply because their numbers are so insignificant. There are many scales, too, that would doubtless rival that of San Jose fame if they were not kept in very efficient check by their enemies. I will therefore begin by the discussion of those species that are of so much value to the horticulturist.

To attempt to catalogue them, even in the most general way, would be a lengthy and tedious proceeding. They are as numerous and varied in their forms and habits as those which by feeding upon vegetation are apt at any time to come within the blacklist of injurious species. As among the higher animals, the quiet and peaceable individuals subsisting on vegetable matter are the ones that usually form the direct prey of the carnivorous sorts, and thus they do not greatly lessen the value of their services by preying upon each other. Taking them all together they may be divided into two great divisions, the predatory and the parasitic. The predatory, those that actively hunt or pursue their prey from place to place are the most numerous and varied, and perhaps on the whole the most beneficial.

Foremost in the ranks of this division are the beetles commonly known as lady-bugs, and which nearly every one knows and recognizes as their friends. They are especially noticeable from the fact that they feed almost exclusively on the various species of scale insects and plant lice, among which are the worst insect enemies we have to contend with. There are many different kinds to be found in Georgia—I have already collected about twenty—and they are mostly easy of recognition from their convex shapes, and their characteristic colors and markings. A few are, however, small, very inconspicuous, and dull in color, but not on this account any less valuable.

Another class of beetles of untold value to the horticulturist are the "ground beetles," black, flattened fellows that sometimes abound on rubbish on the surface of the ground. Like the lady-bugs they are voracious creatures, feeding on other and weaker insects during their preparatory or larval stages as well as during their

adult condition. The larvæ occur in similar situations, or more often perhaps just below the surface of the ground, and from these habits are apt to come in contact with and destroy vast numbers of leaf and fruit-feeding species that come out of the fruit, or descend the tree to complete their transformations beneath the surface of the soil. I have frequently found them in considerable numbers around the base of peach trees in the rubbish and loose earth, and have little doubt but that they prey to a certain extent on the larvæ or pupæ of the curculio, and perhaps also the borer.

There are many other families of beetles that might be mentioned here. The "tiger beetles," or *Cicindelidae*, bright colored and agile creatures that run about by day or night in roads and sandy places, and are veritable beasts of prey among the other insects; the "water tigers," a large group of water-beetles that live in all stages in pools and stagnant ditches, and must destroy myriads of the young of the mosquito; the "checkered beetles," or *Cleridae*, several forms of which are common about dead or dying peach trees, and the young of which are in the habit of preying on wood-boring larvæ, such as the flat-headed borers and the young of the fruit bark beetle; and many others of greater or less importance. Outside of the beetles are many other forms of insects of a predaceous nature. The true bugs are about equally divided between animal and plant feeding forms, and many of the former are among the most serious enemies of the leaf-feeding caterpillars. These insects advance upon their foe unawares, and by aid of a strong-jointed beak that they possess, pierce it and proceed to suck its life-blood. The dragon flies, or "devil's darning-needles," are among our best friends, living in the water during their early existence and feeding upon the larvæ of the mosquitoes, and after their transformation to the adult pursuing the same prey through the air. The ant-lions familiarly known during their early youth as "doodles," also exist in all stages on other insects, but as they undoubtedly destroy large numbers of ants their economic status is questionable. The lace-winged flies, broad-winged, soft-bodied insects, of a beautiful green color, with eyes that are wonderfully resplendent, are abundant around vegetation during the summer season, and being among the worst enemies of the plant lice are among our best friends. Many of the true flies are also predaceous in either their larval or adult stages or both, and some of them, too, are among the worst of the many enemies of the plant lice.

But to continue thus, merely listing the myriads of insects of a canabalistic tendency is hardly worth while since there is no time for enlarging on their individual habits. I will leave them, therefore, and take up the other division of carnivorous insects, the parasitic, already mentioned. Insect parasitism is a broad subject, and I can attempt to do nothing better here than to outline the life history of a single species of parasite which may be looked upon, as far as a single instance may be looked upon, as typical of the group. Nearly all the parasites are small, waspish-looking, four-winged flies, slender in build and active in action. They are often referred to by the semi-scientific name of "ichneumons." They feed during the larval stage in the bodies of other insects, more often than otherwise in those of the various and almost innumerable plant-feeding caterpillars. For the purposes of the illustration I will take that case of a species which has been bred from the tent caterpillar, which forms the large silken tents or webs, so common on the various kinds of fruit trees early in the spring. The mother parasite may sometimes be seen flying around the tent upon which the caterpillars are gathered, or amongst them as they are feeding on the leaves of the tree. The caterpillars seem to recognize her instinctively as their foe, and as soon as she approaches one or a group of them they show that they are aware of her presence by elevating the fore parts of their bodies and thrashing them back and forth in a threatening manner. When the wasp comes near any particular one it redoubles the violence of its movements, and if touched is apt to wriggle so hard as to drop off onto the ground. Under these conditions it is nearly impossible for the parasite to accomplish its ends; but if it suc-

ceeds in getting near enough to a caterpillar without first alarming it, and deposit an egg in the body of its victim by means of a sharp, sting-like organ called the ovipositor. This seems to cause a momentary pain, but the caterpillar soon forgets all about it, and continues to grow and feed like its companions. It has, none the less, received its death stroke. The egg deposited within its body has hatched, and the tiny grub resulting is feeding on its fatty tissue, using wonderful care, however, in avoiding the vital organs. Not until the caterpillar becomes full grown, spins its cocoon, and transforms therein to a pupa is there any change apparent, giving indication of that which is taking place within. By this time, however, the parasitic grub is nearly full grown, and changing its tactics, attacks any part indiscriminately, soon causing the death of its host, and completely absorbing the contents of the pupa shell. It then transforms to a pupa itself, and protected by the cocoon as well as the empty pupa shell of its host completes its transformations, and in the course of time there emerges from the cocoon of the caterpillar, not a moth as would have been expected, but a wiry, waspish parasite, the exact copy of the one that stung the caterpillar so long ago. This has been cited as a typical case, but it is by no means the invariable rule of procedure. There are very nearly as many minor variations as there are species of parasites, and these could be counted by the hundreds, perhaps thousands in Georgia alone. Though, as stated earlier, they are often found feeding on the plant-feeding caterpillars, they are by no means confined to them. Species are known that attack scales, borers, in fact nearly every group of insects, hardly one being known that is entirely exempt from their ravages. They attack the eggs of insects, the larvæ, in all their stages, the pupæ, and even, although to a less extent, the adults. Though they sometimes attack beneficial insects, including others of their own kind, the bulk of their victims are such as are either directly or indirectly injurious, and in consequence they must be classed as among the best friends of the farmer and fruit grower.

Pres. BERCKMANS: This ends the program for to-night. To-morrow morning the Convention will meet at 8 o'clock. The first business on the program being the report of the committees, followed by a discussion on *Monilia*, brown rot.

The Socieiy now stands adjourned until to-morrow morning at 8 o'clock.

## SECOND DAY—MORNING SESSION.

Meeting was called to order at 9:00 a. m., August 8th, 1901.

Pres. BERCKMANS: I am very sorry that we are so tardy this morning as we have lost almost an hour. The first business on the program as announced last night will be the reports of the various committees.

### Report of Committee on Peaches, Plums and Apples.

The display of fruits this year is very small. Many of the members who usually send exhibits have, from some cause, failed to contribute to this department of our work. In the opinion of the Committee this is one of the most important features of the Annual Meeting of the Society, and it is to be hoped that a renewed interest

will be taken by all of our members in making the collection of our Horticultural products at our annual meetings large and attractive.

W. B. Broodfield, Nona, Ga., exhibits 4 plates, very large and perfect Elberta Peaches.

Simon Wheeler, Scottsboro, shows 1 plate extra large Elbertas.

J. M. Stubbs, Dublin, again exhibits remarkably fine specimens of the Wickson Plum; thirteen plates. The size, color and flavor of these plums are all remarkably attractive. In the matter of flavor these plums seem to the Committee to be even better than the fine specimens exhibited last year by Col. Stubbs at Dublin. This exhibit shows this variety of plums to great advantage, and indicates that for general excellence it stands at the head of the Japanese plum list.

Miss Ida L. Holt, Macon, Ga., exhibits 5 plates of peaches, four of which are free-stone and one cling; one seems to be Elberta, the others are of good size and quality, but the Committee cannot determine the variety.

The P. J. Berckmans Co. show 4 plates of the Ever Bearing Peach, 3 plates Chabot Plums and 9 plates Gold Plums. The peaches are of good size and quality, and deserve special note. Chabot Plums are in comparison with Col. Stubbs' Wickson, small and indiffent in appearance, but are perfectly sound. The Gold Plums shown are remarkably fine in color and in general appearance. They are shown in clusters as they grew on the branches, and prove the fact that this plum is remarkably prolific. The Committee thinks that the quality of the plum is better than Mr. L. A. Berckmans' estimate of it, as expressed at our last annual meeting. It is acid, it is true, but for a late plum, we think it has decided value.

R. Tappan, White Plains, shows 2 plates of Chinese Cling of good size and quality, and 2 plates of Elbertas, of very fine flavor and size.

W. W. Stevens, Mayfield, exhibits 4 plates very fine Elbertas. These peaches show extraordinary beauty of color and shape, though somewhat smaller in size than some other Elbertas exhibited.

F. W. Kendrickson, Scottsboro, contributes 2 plates Le Conte Pears, one plate of white is of large size.

Jessie W. Scott, Washington Co., shows one cluster of eleven Le Contes, which reminds one of the old time vigor of this pear.

C. T. SMITH, *Chairman.*  
W. D. HAMMOCK,  
HENRY BANKS,  
H. A. MATHEWS,  
*Committee.*

## Report of Committee on Grapes.

The small exhibit of Grapes this year is accounted for largely by the absence of the very complete exhibit usually shown by the State Experiment Station. The few plates shown this year are good, and consists of the following:

By Simon Wheeler, Scottsboro, Ga.: 1 plate Deleware, very fine; 1 plate Norton's Va.; 1 plate Diana.

By W. H. H. Booner, Scottsboro, Ga.: 2 plates Deleware; 1 plate Niagara, very fine; 2 plates Concord.

By Miss Ida L. Holt, Macon, Ga.: 1 plate Perkins; 1 plate Empire State; 1 plate Canada.

CHARLES DECKNER,  
J. S. SKINNER,  
JNO. P. FORT,  
H. B. CHASE.

*Committee.*

### Report of Committee on Vegetables.

Your Committee on Vegetables beg to report that the display is exceedingly meagre, but what there is is very nice and meritorious. The display of Berckmans from Mayfield of Tomatoes, Cantaloupes, Radishes and Turnips are very fine. From Allen's Invalid Home: Fine Egg Plants, Cantaloupes, Tomatoes, Okra, Cucumbers and Corn is fine, and people fed on such vegetables ought to soon get out of the invalid state and on the right road to permanent health. We are sorry that the exhibit is not larger, for we are assured that this county can do much better in this line.

Respectfully submitted,

G. M. RYALS,

A. T. HOLT,

*Committee.*

Pres. BERCKMANS: Next we will have the report of the Auditing Committee of the Treasurer's Accounts.

Mr. SCOTT:

### Report of the Auditing Committee.

We the Auditing Committee have examined the Treasurer's Accounts, and find that the Total receipts for the year amount to.....\$ 962 34  
Disbursements to Aug. 6th, 1901..... 399 95

Leaving a balance on hand of.....\$ 562 39

We also find that the books have been neatly and accurately kept and that proper vouchers have been taken to correspond with the amounts disbursed.

G. M. RYALS, *Chairman.*

CHARLES DECKNER,

W. M. SCOTT.

Report adopted.

Mr. WADE: I have been asked by the Committee on Flowers and Plants to read their report:

### Report of Committee on Flowers and Plants.

The Committee on Flowers and Plants beg leave to report that the entire collection is so unusual in its completeness to the idea it represents i.e.: the ornamentation of the assembly room, that your committee finds its work one of superorgation. The magnificent Palms, Ferns, and other foliage plants, show such excellence, as can only be produced by loving care and patient work. It is rare indeed that we find such beautiful greenery outside of the hothouse or in our largest conservatories. The committee feel inadequate to pass individual judgment, but the whole collection speaks for itself, in its own beautiful language, hence we recommend that the earnest thanks of this Association be tendered to the ladies of Milledgeville for their thoughtful consideration in adorning our assembly room with such appropriateness.

MISS IDA HOLT,

R. C. BERCKMANS,

H. B. BUIST,

*Committee.*

Pres. BERCKMANS: It would be ungallant to ask this Society whether this report be accepted or not, therefore we will dispense with a vote on this matter.

Mr. RYALS : In accordance to the recommendation of the report, I would like to make a motion to return thanks to the ladies for the really wonderful display. Seconded and carried.

As moved and seconded all reports were adopted.

Pres. BERCKMANS : Now we would like to hear from the Committee on Legislation.

Mr. HUGHES : I am very happy, sir, to report to this honorable body, that the Georgia Legislature has granted the request made by this Society for an increase in the appropriation for the Department of Entomology. And I believe that is the only report we have to make, and as they gave us all we asked for, the Committee feels very much gratified.

Pres. BERCKMANS : In connection with this report, I beg to say as a member of the Board of Entomology, that we have received the additional appropriation which has allowed us to increase the working force, and have secured for the State a very able assistant Entomologist, as you have been enabled to find out for yourselves by his demonstration last night on the canvas; his field work is even better. Still we find that the appropriation is not sufficient to do the work as we want to do it. Even our Entomologist says that without additional funds it is impossible to cover the field in a way perfectly satisfactory to the people at large. If the Legislature could be convinced of this fact, I think it would be to the benefit of the fruit-growers all over the State. You are all interested in this, it is not one individual, therefore I trust that every member of the Society will resolve himself into a committee of one and see if we cannot get an additional appropriation. Another \$2,500 will give us all the facilities we want. The present appropriation is liberal, it is true, but it is too small; our field is very large, and the Entomologist will bear me witness that this is the fact. Furthermore, we have not the necessary equipment; we have no laboratory, and we have not the appliances that are necessary for the proper carrying on of this great work.

Mr. R. C. BERCKMANS : Mr. President, I move that the Committee on Legislation be continued for another year with a view to getting further appropriations. Seconded and carried.

Mr. RYALS : Do I understand that the Committee on Legislation is to be the same as last year? And who are the members of that committee?

Pres. BERCKMANS : Yes, the same as last season, Mr. Dudley M. Hughes, L. A. Berckmans, Henry A. Matthews, Maj. G. M.



Ryals, and Prof. Hugh M. Starnes. I think this committee is the best as they understand the situation thoroughly and are willing to undertake this work.

Mr. MCNEIL: I move that each and every member of the Society be a committee of one to see the next representative of his respective county and urge him to work for this appropriation, Seconded and carried.

Pres. BERCKMANS: We will have no report from the Committee on Biology, as the Chairman, Mr. Quaintance, is no longer with us, I regret very much to say.. I believe we have heard from all the committees.

In regard to our financial status, I am requested by the Treasurer to urge all the members present to interview him in regard to this matter. Also in the matter of certificates of transportation, if any of you have not handed in your certificates, please do so at once so that we can participate in the reduced rates in returning to our homes, if this is not done you may have some difficulty in getting these reduced rates. In this connection I also beg to say that it is very much to be regretted that the railroads have not come to our help as in former years. But I am glad to say that many of our old members have not allowed this refusal to grant us free transportation as heretofore, to defer them from attending this convention. If the railroads refuse to help us let us without their support continue to bring this Society up to the highest standard of similar organizations, but in order to do that, like in any other organization, the finances have to be considered; if we do not get the response from our former members in regard to renewing their membership, our treasury must be depleted. And I do hope that every one of you on your return home will see some of our old members and get them to interview the Treasurer and renew their membership. We are a working concern and we want to keep our standing up. I have requested the Treasurer to send out a circular to all of the delinquent members urging them to keep their affiliation up as they have always done. I am glad to say that we have with us some of the old members that were absent last year; we have with us two of the original members, besides myself, who started this Association in 1876.

We will now proceed with our regular discussion upon the Catalogue of Fruits. We have for year after year eliminated everything from the Catalogue that was not worthy of cultivation until we have reduced the list to such classes of fruit as it is really safe for the

fruit grower to plant. Is it desirous to read over all the names or merely discuss new varieties?

Mr. RYALS : I move that we discuss new varieties with the privilege allowed to any member to bring up anything that we have in the Catalogue.

Pres. BERCKMANS : If you find that there are any additional facts so far as deterioration or liability to disease, these points ought to be added. We have found it necessary to drop many varieties which at the beginning of our Association we considered amongst the best. We will start on the apples first, there are very few I think that need a new rating. Unfortunately we have very few apple growers here except probably with the exception of Mr. Fort.

Mr. FORT : Mr. Chairman, I am an apple grower to a very limited extent, I grow apples and cherries in North Georgia on what might be properly termed the "roof of the State" the divide being 1,700 feet above the sea level. I have a small apple orchard. From observation including several years, I will give to the Society a very concise idea of my experience. Patrick Henry said : "There is but one lamp by which my feet are guided and that is the lamp of experience," in my judgment, an apple of the crab variety is the only apple that will succeed below an altitude of 2,500 to 3,000 feet above the sea level in Georgia. Such fine apples as we see brought from the North, the Imperial, Jonathan, Greenings, etc., it is useless to mention. But when I was a little boy there was an old lady by the name of Mrs. Hatcher that used to bring in to market what she called the Castor Crab; in Baldwin County she had a magnificent orchard, it was small, but she grew them to perfection. I would only plant the crab-apple ; I mean an apple that is snappy and brittle. Other varieties of apples you may grow the trees here but the soft fleshed apples the coddling moth and other insects will soon destroy. Our climate does not seem to suit the apple. I do not think the winter apple is cultivated to any extent in Georgia. I do not speak of the Horse apples. But now to return to my limited experience in apple growing : Years ago, I being upon the same thermal line as Albermarle County, and also have the same geological formation that is formed in Albermarle County, Va., I conceived the idea that I might grow the Albermarle Pippin, as it sells higher than any other apple, and they are nearly all shipped to Europe and sell from \$5 to \$7 per barrel, and the people of Virginia seem to think that they will only grow successfully in Albermarle County. The Albermarle Pippin is the very highest type of

the crab variety of apples, it has this same brittle flesh, and the same delightful flavor and it is an apple said to have been favored by Queen Victoria and for this reason was introduced into Europe. Some years ago I wrote to the old Dominion Nursery, which is Hood & Co., of Richmond, asking them if they could furnish me with a few trees of Albermarle Pippin, and they wrote me that they could, but that I might rest assured that the trees would never succeed with me. But as I recognized that we had about the same conditions as existed in Albermarle County, and I sent for about a dozen trees. Well, I planted these apple trees with a great deal of care and the trees have shown a great vigor of growth, some of them 20 feet high, and have a small crop of apples on them now, and as the theory is put down in books that the Albermarle Pippin would not bear within three years I am pleased with the outlook. There is one gentleman here who has seen my apples and he can tell you as to their vigorous growth.

Pres. BERCKMANS: Are you sufficiently satisfied with your experiment to propose that we catalogue the Albermarle Pippin as promising well for the Piedmont region?

Mr. FORT: I do not feel authorized to do so just yet. Give me about two years more and I will be very glad to give this apple my recommendation.

R. C. BERCKMANS: Mr. President, when on a trip through North Georgia last season, I found an apple up there known as the "Poorhouse" apple. Upon further investigation I found that this apple had been fruiting there for the past forty or fifty years, and I move that this apple be recommended for the Northern section.

Pres. BERCKMANS: Is there not a better name for this apple. Now under the rules of the American Pomological Society, we have the privilege of changing such names as do not convey the proper meaning, and I think a change of name in the present case is necessary. What name would you propose for this apple.

R. C. BERCKMANS: I think "North Georgia Pippin" would be very appropriate. We traveled about 40 miles through the country in search of this apple and finally met up with the old lady who owned the orchard. We asked this lady how much she charged for her apples, and she said, "I always get a dollar a bushel for them." "Well," I said, "I cannot carry a bushel, I want a pocketful of them," and she replied, "We always get a dollar a bushel for them." Then I asked her how much she would charge for a peck of them, and she said, "We get a dollar a bushel for them, and we only sell

them by the bushel; you will have to pay one dollar for them." (Laughter.)

PRES. BERCKMANS: We have a precedent in this matter. We have an apple on the list by the name of "Hargrove," of superior quality, and we desired to get a name for it, as the fellow that originated it called it the "Yellow Hog-pen," so we gave it the name of "Hargrove." So in this case we would do well to change the name of the apple in question, but we will put it down as the "Poorhouse." Promising well for the Piedmont section. What season?

R. C. BERCKMANS: We found it there ripe about the 15th of October. Keeping qualities good.

I. C. WADE: I kept some until the 1st day of April.

PRES. BERCKMANS: That is an essential point. We will put it down as a winter apple of Pippin form.

COL. WADE: There is another apple that I would like to bring to the attention of the Society. In the first place, as Col. Fort suggested, I happen to be well acquainted with the Albermarle Pippin, and pretty well acquainted with the soil and climate of Albermarle County, and we have exactly the same conditions in Habersham County, in the Piedmont region, and I never saw any better trees than he has. He got the first crop when they were only four years old; of course they were young trees and only a few on them, but we will probably get at what they can do this year. It is certainly a remarkable epoch if we can get this winter apple on the market. It is an apple that we have not in abundance, and it is an apple that we have been looking for in the past years. Then we have the remarkable case of the Poorhouse apple. Judge Redwine, of the Hall County Circuit, has used this apple in his house for the last thirty years. It is a very large green apple, resembling the Greening, or Rhode Island Pippin. It is of exceedingly fine flavor. The orchard has been running for thirty odd years, and the old lady that owns it says she has not less than 250 to 600 bushels every year, some years 300 bushels and some years 400, and some years not very much; but this orchard is worth more to her than the balance of her 350 acre farm. In regard to another apple, there is an apple that is grown at Draketown, Haralson County, that excels the Poorhouse apple as a keeper, as I have kept it in cold storage un il August. They took several carloads of this apple to Columbus last fall, and it brought \$1 per bushel, and the buyers simply asked them if they had any more to ship them. It is the "Rough and

Ready" apple. Messrs. J. F. Westbrook & Co., are very anxious to introduce it, and perhaps it would be a kindness to them as well as our Association for us to adopt it. Prof. Scott will tell you that I kept some of these apples until our meeting in August last year, from the previous year in cold storage, and brought specimens to the meeting and they were referred to the Committee on New Fruits. Mr. L. A. Berckmans was on that committee. The flavor, of course, was not at all good, as they had been kept in cold storage, and the flavor at best is not very good, but it is an excellent winter apple; and I will testify that it will keep through the winter months, into April and May, and in cold storage will keep until August. It is very much better than the Shockley.

Pres. BERCKMANS: We will now go on to the peaches. The first peach that stands on the list as promising well is the Sneed. Some of our members desire to know something about the Sneed and we would like to have some who have raised it and shipped it tell us about their experience with the Sneed.

It seems that none of us have had any experience with this peach so we will pass on to the next.

L. A. BERCKMANS: I suggest that Belle of Georgia receive two stars for the Middle section. It is one of our best shipping varieties. Seconded and carried.

Pres. BERCKMANS: In rating these fruits it is done by the approval of the Society. One of the members may have a special report to make on a variety, still we do not depend on one man's experience. Therefore we are very cautious in getting the vote of the Society on each variety. So we will give the Belle of Georgia two stars for the Middle region, it is of the Chinese type.

Pres. BERCKMANS: Next we have the Carman.

Mr. SCOTT: It seems to me that something further should be said about this peach, under the head of remarks we have "bears early and prolific" and two stars for the middle region. Mr. Matthews grows this peach extensively.

Mr. MATTHEWS: The Carman peach has proven with us this year to be a great success, I know of a number of trees this year that bore over a crate and they were only two years old. I know of one grower that shipped 6,000 crates of this variety from an orchard only two years old. These trees were planted in the winter of '98. And I simply want to say that this is something out of the ordinary. We sometimes get a small crop from trees of that age. It bears early, is prolific and has been a desirable market variety this

year. We have received as good results from this peach this year as from any other peach we shipped. I think I would call it a semi-cling.

Pres. BERCKMANS : Here is a peach that has been getting some very unfavorable reports, the Greensboro. The Greensboro is not sufficiently rated, we will have to discuss this variety.

Mr. MATTHEWS : I don't think it generally satisfactory or considered a valuable peach.

Mr. L. A. BERCKMANS : It is a peach that is very satisfactory in the Southern section and is grown extensively for market purposes.

Dr. MCNEILL : The Greensboro did very well down in Telfair on several farms. Several farmers are satisfied with the Greensboro this year.

Pres. BERCKMANS : It has no rating for the Southern region.

Dr. MCNEILL : I think it would be well to give it one star for that section at least.

Pres. BERCKMANS : Any objection? Carried.

Next we come to the Hale.

L. A. BERCKMANS : I move that it be stricken from the list.

Pres. BERCKMANS : Any objection? Strike it.

L. A. KERCKMANS : I move that Mýstery be stricken from the list, as it is good for amateur purposes only.

Mr. MATTHEWS : I move we strike Globe from the list.

Pres. BERCKMANS : For what reason?

Mr. MATTHEWS : It has no particular value. It comes on the back of Elberta. It is very large, but inferior in quality and is not prolific. The trees of it are being cut down.

Pres. BERCKMANS : Emma. Here is a peach that wants something said about it.

Mr. MATTHEWS : I move that the number of stars be reduced on Emma. I don't think any one has succeeded with it in our section except Mr. Rumph. It makes a good large tree but no fruit. I move that we reduce it to one star for the Middle region. Carried.

L. A. BERCKMANS : I move that Red River be added to the list. It is an improvement on Early Louise, it is a prolific bearer and attractive fruit.

Mr. MATTHEWS : When does it ripen?

L. A. BERCKMANS : It ripens with Louise.

Pres. BERCKMANS : It is superior to Louise. One star for the Middle region.

Pres. BERCKMANS : Now we have the Triumph.

Mr. RESPRESS : I have handled that peach at Mayfield this season, and it is very prolific. There was no rot amongst it. It was very highly colored and a good market sort. Ripe about 15th June. It is a very valuable peach.

Mr. FORT : I consider it a valuable peach for the mountains. It was profitable to me this year as much so as any peach I handled. It comes off with me about the 4th of July.

Dr. MCNEIL : I have just noticed that the Sneed has no rating in the Southern district. It is certainly entitled to it. The Sneed is possibly one of the best peaches we have down there.

Pres. BERCKMANS : We have passed upon Sneed, and now we have a different peach under discussion.

Col. PARK : Why is not Heath's Late White cultivated more in Georgia. There is a demand in the field for white peaches and clingstone peaches for putting up in brandy, and last year I bought some from Col. Fort. It is the best peach for preserving, but it seems to be neglected in Georgia. I have some trees, but they have not done well this year. I would like to know whether the fruit-growers present pay any attention to these late white peaches. There is really a demand for this peach, as I have considerable demand for it myself at my house, I have several neighbors who have been anxious for it for several years but have great trouble in getting it.

Mr. FORT : I grow this peach to a limited extent. It used to be called the White English. They used to put up brandy peaches at my house a great many years ago, and it is the same peach in appearance, but I have not made a great success of them. I have grown a few very nice ones. I have only 100 trees. The shothole borer attacks my trees.

Pres. BERCKMANS : Here is a case again where some varieties may deteriorate. Now I can trace out a dozen synonyms for that one variety of fruit, some do better than others, but the old Heath Cling is not as productive or as reliable as it was twenty years ago.

Mr. MATTHEWS : I move that the Hiley peach be given two stars for the Middle region. Hiley's or Early Belle.

Pres. BERCKMANS : Is there no objection? Then we will add one star to Hiley for the Middle region. Any more peaches?

Mr. FORT : I have a peach, the Brandywine, it succeeds remarkably well with me, and I think it should be placed on the list.

Pres. BERCKMANS : Where did it come from?

Mr. FORT: From the Delaware Nurseries. It is a peach that comes after Crawfords, and is a large yellow peach. It is quite productive with me, and I suggest one star for the Mountain region. I suppose it originated in New Jersey.

Pres. BERCKMANS. Now as to the Japanese plums. Have we no one here to speak in reference to the Japanese plums?

Mr. ELLINGTON: I would like to say that while I have not grown many Japanese plums for market, my experience with them has not been very encouraging. They rot so badly.

Pres. BERCKMANS: What variety do you cultivate?

Mr. ELLINGTON: I have three or four; Ogon, Burbank, Prunus Simonii, and I think that possibly the Burbank rot less than the other varieties I have.

Pres. BERCKMANS: I have noticed downstairs some Wickson plums which come from trees that I know. They are planted on the side of an old road in hard clay, without any cultivation except keeping away the weeds and grass. These, I have been told, have been kept in cold storage for two weeks. They have been sprayed. We have the Kelsey plum, and it is noted to be a very bad variety for rotting; but by spraying properly and at the right time you can keep them very easily. Now as to the Gold plum, this seems to be immune from rot so far as we have grown it. But the best results that I have seen are from the Wickson, Burbank and others, as seen at Col. Stubbs'. They are not cultivated, but close by the house where the poultry can have access to the curculio, whereas on cultivated ground the fungus seems to be more active. Mr. Scott has seen these trees; they are just along the side of an old road, and they have been well taken care of by spraying and keeping the weeds cut. It seems to be exactly the reverse from what we have always considered proper as to cultivation. But sometimes we err in our ideas.

Mr. LOUIS BERCKMANS: I have also noticed the Kelsey, which heretofore has been attacked very badly and this year is entirely free from rot. Burbank rotted terribly; there was hardly a plum on the whole orchard. The dates of ripening of a good many of the plums seems to be reversed; this year Burbank, in some instances, ripened before Abundance. I would also mention in reference to spraying, we used the Bordeaux 4-5-50, and there were no bad effects on the foliage whatever. Parties who sprayed in other sections of the State using the same formula reported very severe damage to the foliage.



Col. STUBBS : I arise to reply to Mr. L. A. Berckmans. He stated that the Kelsey plum is free from rot this year. This is the only instance that I can recall. I want to show you how uncertain any one statement is for a guide. As you know I planted some of the first trees that were brought by you to this State ; Kelsey, Wickson, Satsuma, Burbank and others, and have never had a Kelsey plum to rot until this year. I have not had one of the other varieties to rot, Burbank, Wickson or Hale or any of the new introduced plums. I have some Kelsey trees that are now sixteen years old and have uniformly borne good crops. This year I sprayed these trees five times and yet they rotted. I sprayed the Wickson and the other varieties only twice. My good wife took particular care of the Kelsey trees as they were near the house, and they may have been over-sprayed; but I find that I have not been able to get a single sound plum from these trees. The Kelsey may have gotten a little excess of fertilizer; but as my friend, Mr. Berckmans, said, I have never had any success with the Japanese plums of any variety, until I put them in an uncultivated spot. I gave them all the attention that a young father would to a first-born. I gave them too much attention, and soon found that just as they were approaching maturity they would take the brown rot, and all prospects of a crop would disappear, and I concluded after two or three years that we had made a failure. I recalled in my mind that we had in my boyhood days succeeded in raising plums around the poultry yard, and thought that I would try them there, and so I supplied myself with more trees, and so long as I have kept from cultivating them I have never failed to have a crop.

Pres. BERCKMANS : Is there any more discussion upon the Japanese Plums, we have a great deal to do and the special work for discussion this morning is Brown Rot. Therefore we will continue our Catalogue only a short time longer. Next we have the discussion upon nuts. *Pecans*. I was very much struck last winter by seeing pecan trees in Dublin that had been planted four years only and were bearing large crops, when it is generally conceded that pecans will bear only seven and eight and ten years after planting. To plant pecans and have them bear early you must fertilize. Now as to this idea that the tap-root makes the tree barren when it is cut off is all nonsense. We have every reason to know and affirm that you can transplant a large pecan tree sometimes with great success and cut off the tap-root.

Col. STUBBS : I have been asked a hundred times about this tap-root. I am satisfied that the tap-root of the pecan has nothing more to do with the bearing of the tree than any other tree, peach, apple or plum. I have transplanted them when they were eight to nine years old, and from four to five inches in diameter. The finest tree that I have came from the Louisiana paper-shell variety and I transplanted this tree when it was in its ninth year ; that tree is now about twenty-two years old and bears as fine nuts, as my friends will attest, as you can get from the original tree at Monroe, La. I have planted trees four years old when they were in bloom and they held their crop and matured it. As my friend, Mr. Berckmans says, I know of no tree, plant or shrub that responds to fertilizer more readily than the pecan. I do not know of any tree that it pays as well to fertilize. You can tell when a pecan tree is two years old exactly the kind of nut it will bring when it comes into bearing, you can pick out by the foliage and the bark a tree that will make you a soft shell pecan. I should plant pecan trees from 40 to 45 feet apart according to the richness of the land.

Dr. HUNNICUT : I have had successful experience in germinating the seed pecans in this manner : Just put your pecans in a cigar box with a little sand, and put them in your room, keep the sand damp until the nuts begin to crack then plant them about two inches deep.

Col. STUBBS : You can do that in a much shorter time if you will open the point of the nut, in fact it will take only about a tenth as long to germinate the nut if you will take a light hammer and open the point of the nut. In this manner I have been able to have some germinate in ten days.

QUESTION : What time do you do this ?

Col. STUBBS : The latter part of February.

L. A. BERCKMANS : Pecans seem to be rather an interesting subject at the present time. I have had several people to ask me about the new system of "*terminal budding*." They take the seedling and with an instrument or sharp knife gouge out the terminal bud and insert another of a known variety; this is claimed to be done by a Tennessee nursery and they claim that they have in their employ three out of the four men in the world who understand this process of terminal budding. I have written to several authorities on the subject and have ascertained that this "*terminal budding*" is a fraud and that it is impossible to accomplish such a process.

Pres. BERCKMANS : Now the next thing in order is *the discussion on Monilia or Brown Rot*, as was passed upon yesterday. Prof. Scott will conduct the discussion.

### Discussion Upon Brown Rot.

PROF. SCOTT : The Brown Rot problem is one of vital importance to the fruit growers of this State. The amount of damage to the peach and plum the last two seasons has been something enormous. Brown Rot is due to a fungus (*Monilia fructigena*) which attacks the bloom, twigs and fruit of the stone fruits. It is particularly destructive to the fruit as it approaches maturity. The seriousness of this disease depends largely upon weather conditions. It will be remembered that last year it rained almost incessantly throughout the month of June which resulted in almost total destruction of varieties maturing in that month. Unfortunately, again this year the rain came at such a time as rendered the conditions favorable to the development of the rot on the early varieties. Later varieties did not suffer so badly, but even the Elberta was damaged considerably.

Again it has been observed that fruit on trees in a luxuriant state of growth with heavy foliage, suffers more from rot than fruit on trees in an ordinary condition. Heavy foliage obstructs the sunlight and air and the fruit under such conditions is tenderer and more susceptible.

In 1898 we made some experiments at Marshallville looking to the control of this trouble. Various strengths of Bordeaux mixture were used to determine the strength that could be used without injury to peach foliage. The 3-6-50 formula, (3 pounds bluestone, 6 pounds lime and 50 gallons water,) did no damage, while the 2-3-50 formula and the 4-5-50 formula did so much damage as to cause the shedding of 50 per cent. to 75 per cent. of the foliage. The 3-6-50 formula of Bordeaux was therefore adopted and extensively used by the Marshallville growers. At the 1899 meeting of the Society I recommended this strength for general use, advising three or four applications during the course of the season. Last year a large number of growers sprayed with excellent results against Brown Rot and with no damage to the foliage.

Maj. Ryals of Worth County reported that the spraying of his orchard prevented the rot almost entirely and that the only rot he had in his orchard was in an unsprayed block of trees from which he obtained no sound fruit. Mr. S. H. Rumph, of Marshallville, reported that he had practically no rot, having sprayed four times, while some of his neighbors who did not spray lost the greater per cent. of their crops. Other growers had equally satisfactory results, and we, therefore, felt very much encouraged. Prof. Quaintance, of the Experiment Station, then issued a bulletin on Brown Rot in which he also recommends the 3-6-50 formula of Bordeaux. Upon the strength of these results, therefore, Bordeaux was extensively used this year. In most cases three to four applications were made, beginning just before the bloom appeared. But a peculiar thing occurred. In nearly every case the foliage was damaged and in many cases 50 per cent. to 75 per cent. of the foliage was shed as a result of spraying. I was kept busy for several weeks visiting these damaged orchards and trying to appease the wrath of the growers. I am not prepared to explain the cause of this sudden conflict with previous results and will only say that we propose to work the whole matter over again next year with a hope of securing a remedy for Brown Rot without damaging the foliage. However, I am not yet prepared to discourage the use of Bordeaux. Rather than lose a crop from Brown Rot I would spray with Bordeaux, but it should be prepared and used with the utmost caution. There is certainly enough lime in the 3-6-50 formula and I would suggest that 75 gallons of water be used instead of 50 gallons.

Fortunately the shedding of the foliage did not damage the crop in the least. In fact the exposure of the fruit to the sun gave it a much higher color than it ordinarily has, and I know of a number of cases where this highly colored fruit brought better prices than fruit from unsprayed trees. Moreover, very little or no rot appeared in these sprayed orchards. As an exception, however, I will mention the orchard of Col. John M. Stubbs, but this orchard only had two applications and these were applied very early. He lost his entire crop both this year and last. His trees are kept in very vigorous condition by high fertilization and cultivation and the land is apparently not well drained. Two applications are not usually sufficient even under favorable conditions.

Mr. Hughes did not spray last year and lost his entire crop. This year he sprayed three times and had practically a perfect crop.

QUESTION: What formula did he use?

Mr. SCOTT: For the first application he used the 4-5-50 formula and the 3-6-50 formula for the later applications.

Another very striking case is that of Mr. H. L. Woodruff, of Columbus, Ga. Last winter he asked me to visit his orchard and tell him whether to dig it up and quit the business or try to get a crop this year. I gave general directions upon cultural methods and advised four applications of Bordeaux. My instructions were closely followed and soon after the third application the leaves commenced tumbling down and he thought that not only his crop but his entire orchard was destroyed. I wrote him as encouraging a letter as I could under the circumstances and awaited results. I have a letter of recent date from Mr. Woodruff stating that his crop had matured in perfect condition and that from 10,000 trees he would get 15 or 16 cars of fruit, for which he was offered \$1.00 per crate at Columbus, and this from an orchard that he had expected to dig up.

It should be stated in connection with this case that at our suggestion Mr. Woodruff left 40 trees unsprayed as a check and on these trees all the fruit rotted. I would say, therefore, that we have a remedy for Brown Rot and that the problem we now have to work out is how to prevent this remedy from injuring the foliage.

Such sanitary measures as carefully destroying all rotted fruit and pruning off affected twigs should not be given a secondary consideration in the treatment of Brown Rot. Moreover, one can frequently control the vigor of the trees and thereby lessen the chance for rot, as it is well known that trees with heavy foliage are more subject to the attacks of the rot fungus. Very little nitrogenous fertilizers should be used on bearing orchards and frequently one can judiciously cease cultivation a short while before the fruit matures, thus checking the growth of the trees.

QUESTION: What is the proper way to mix Bordeaux?

Mr. SCOTT: The bluestone should be dissolved in 25 gallons water, and the lime slaked and diluted to 25 gallons. The bluestone water and the lime water should then be poured together into a separate barrel, a bucket of each at the same time so that the two solutions will come together in the act of pouring. This should be thoroughly stirred for a few minutes and then strained into the spray pump tank. It is frequently more convenient to prepare stock solutions of these substances by dissolving 50 pounds of bluestone in 50 gallons water and slaking 50 pounds lime and diluting to 50 gallons. From these stock solutions the proper amount of bluestone and lime can be taken to prepare the 50-gallon formula as already described.

QUESTION: Is there any condition of the tree or soil that would be favorable to this disease?

Mr. SCOTT: I have just explained that the vigorous growth of a tree induced by heavy fertilization with nitrogenous manures renders the conditions favorable to the development of the rot. Also, rot is usually worse on low undrained land.

Col. STUBBS : This question of controlling the Brown Rot is of vital importance to our Society, and one that I regard as more serious than the San Jose scale; but what is the cause of this Brown Rot? That is the question. I wrote to Prof. Scott this year asking him about the treatment of my orchard, and he suggested that I had better call him down to go over the orchard, I did and he came. Well, I admit that when he came he looked very much discouraged, and I told him there is the orchard and you are the doctor, and I want you to tell me what to do and I will do it. Well, that afternoon he admitted, and we resolved that we did not know anything about the cause of the rot in that orchard. Now, he advances the opinion that my land is not suitable; that it is too flat. I told him that across the orchard was a fall of twenty-five feet; well it looked very level to him, being accustomed to the red hills of Virginia. But the truth is that there is a fall of twenty-one feet in the length of the rows, and then I called his attention to the fact that it was on the same land and the same orchard that I had four successful crops. My friend, Mr. Hughes, with his orchard on a hill-side with good drainage, both years had not a single peach in his orchard. The reverse is true this year. I think that Mr. Hughes sprayed most after I did three or four weeks. I did not stop for the blooms, I sprayed right on, while it was in full bloom. I instructed my man to spray four times up to within two weeks of the ripening time, but he got tired and quit after the second spraying. Now whether the third time saved Mr. Hughes' and lost mine, these are questions to be answered. The visit to the orchard with Mr. Scott disclosed one fact: he called my attention to the fact that where we sprayed and the spraying had affected the foliage the most, there was a very vast improvement in the appearance of the fruit. It must be undesirable to so treat a tree that you have to drive all the foliage off of it in order to save the crop, for we all must know that that is done at the sacrifice of the longevity of the orchard. Now as to fertilizing, I have not fertilized as much in the last three years as I have in the years previous. You will remember that we had the first severe freeze in '97, and all of us went to cutting back the trees, but I decided to wait thirty days before pruning mine. There was a great deal of the severest pruning done in the orchards of the State, myself among the number, pruned very heavily, and it produced in my orchard a very luxuriant growth, the land is good and without the fertilization it would have made a good growth anyhow; and wherever we have cut there is instead of

one limb three or four, and we ought to have gone back the following spring and taken out all except one or two limbs of the previous year's growth. Now my trees are very luxuriant on that account. So I have referred the matter to Prof. Scott, and he has determined to take charge of the orchard, and I am determined to let him take charge of it. Now his theory is to allow the orchard to go to nothing to starve it out, but I would rather have no orchard than to go to the expense of keeping it up and get no crop. On the 20th of June I had not less than 45 cars of peaches in a healthy condition, I shipped four.

Pres. BERCKMANS: Gentlemen, we have met with the loss of one of our most esteemed co-workers in the death of Capt. J. B. James, and it is meet and proper that we should prepare a memorial and adopt it. I appoint Col. Matthews to draw a resolution expressing our sorrow at the loss of this valuable man. As we have a great deal of work to do this afternoon, and I am told that it will be necessary for us to adjourn now in time for dinner, as that hour has almost arrived, I will read the program for this afternoon's session.

### **Program for Afternoon Session.**

Selection of next place of meeting.

Opening of question box.

Election of officers.

Miscellaneous business.

We have received a few questions to be answered, but not as many as we wish. Therefore if you desire any question asked pertaining to any horticultural matter, if you will write the same out and hand it to the Secretary, we will have it answered by some of the members, and in this way draw out a great deal of valuable information.

Col. R. E. PARK: While we have a full house and yet some time before adjournment, I move that we now proceed with the election of officers and that Col. Stubbs take the Chair. Carried.

### **Col. John M. Stubbs in the Chair—Election of Officers.**

Col. PARKS: Mr. Chairman: I wish to propose the name of a well known gentleman for the office of president of this Society for the ensuing year. His name is a synonym for integrity, reliability, rugged honesty and for knowledge. He is well known and when he has worked for the past quarter of a century faithfully as

a leader bringing the shipments of Georgia fruits from a few crates sent by express to 2,000 cars and perhaps 2,500 cars shipped this year, we cannot do a more appropriate act than by electing this gentleman as President of this Society to control its destinies for the next year by rising up, and I move that we elect him by acclamation.

Motion seconded and Mr. P. J. Berckmans unanimously elected President.

PRES. BERCKMANS : I thank you most cordially and heartily for this token of your esteem. I take it that my services in your behalf have brought this reward for what I have done. But I assure you, gentlemen, that this convention has showed me more than ever that we must keep in union amongst ourselves, we are laboring under some difficulties which have not beset us for the last twenty years. If we come to this convention as we should do, then the Society will have the benefit of our aid in these matters. If we appreciate the fact that the railroads did not do their duty towards us, it is for causes that we cannot understand. Therefore, I shall expect your assistance that you come to my support and I will work for you most heartily but I cannot do it all by myself. I am glad to see that some of the old members who formerly helped us are gradually coming back to our Association and stand by us again. Therefore, my friends, please accept my thanks for this token of your esteem for me. (Applause.)

We have the election of Vice-Presidents, it is customary that the delegates from each Congressional District come together and select the proper man for Vice-President for their district. The Second, Fourth, Sixth, Eighth and Tenth Congressional Districts go out this year. Gentlemen, if you will come together and make your selections you can announce your candidates in a few moments.

A DELEGATE : Mr. Chairman : There are a number of districts that are not represented here. Now, for instance, I do not think there is a representative for the Second District.

DR. NEWTON : For the interest of the Society and with no personal feelings whatever, I would suggest that those officers of our Society, who will not attend that their places be filled by others who will give their work to the Society.

COL. STUBBS : To dispose of this awkward situation I would suggest that the rules be suspended and that we nominate Mr. W. B. Hammock for election to the Second District. Carried.

Pres. BERCKMANS: The Fourth District, Mr. Jas. Cureton, Moreland, Ga., incumbent.

Prof. SCOTT: Mr. Cureton makes a very plausible excuse for not being at this meeting, and as he is a good man I nominate him for re-election. Nomination confirmed.

Pres. BERCKMANS: The Sixth District.

A DELEGATE: I nominate Col. R. E. Park for the Sixth District. Nomination confirmed.

Pres. BERCKMANS: Next is the Eighth District.

A DELEGATE: I desire to nominate Prof. H. N. Starnes for the Eighth District. Nomination confirmed.

Pres. BERCKMANS: Next we have the Tenth District.

L. A. BERCKMANS: I nominate Dr. Neil McInnes for the Tenth District. Nomination confirmed.

Col. STUBBS: Mr. President, I have also a resolution that the office of Secretary and Treasurer be combined and for that office I nominate Mr. L. A. Berckmans.

Pres. BERCKMANS: Before this resolution is made I think we will have to investigate the by-laws.

Col. STUBBS: I nominate Mr. L. A. Berckmans for Secretary. Nomination confirmed.

Col. STUBBS: Now I nominate Mr. L. A. Berckmans for Treasurer. Nomination confirmed.

Pres. BERCKMANS: What is your pleasure in regard to meeting this afternoon.

Col. RYALS: Before it is time to adjourn it will only take a few moments to select a place of meeting for the next year and I suggest that we select a place now as some of us are going away on the afternoon train. Seconded and carried.

Col. STUBBS: On account of the action of the railroads in refusing free transportation to the members of this Society in attending the annual meetings, each member hereafter will have to bear his own expenses and I think it is therefore necessary that we should select some centrally located point as a permanent meeting place for the Society. It has been pleasant and profitable, Mr. President, to go around and give object lessons to the fruit growers, and farmers and people in general, where we could not have reached them in any other way. It is clear to my mind that we must locate the Society somewhere.

Pres. BERCKMANS: This subject is open for discussion, we would like to hear from some of our members in reference to this matter.



Col. PARKS : I agree fully with Col. Stubbs, it is essential that we should have a home, and a home with a community that is thoroughly identified with the fruit interests of the State of Georgia. I do not think that the railroads will continue to pursue this new policy and I think that they will see that this Society has been instrumental in bringing them business. I think that they will realize that the fruit growers are paying them about \$800,000 for transportation of the fruit and vegetable products of Georgia in the summer time, while heretofore their cars have been rusting out on the side-tracks. I think that they will see by another season that they should treat us well and that they should encourage this industry. If the Society decides to select a permanent home, I think it should select as centrally located a city as possible, we should get as near the railroad centre of location as possible, a location that is tributary to the largest fruit interests of the State. Without consulting with the officials of the City of Macon, I know that they did not anticipate that this question would be brought up, I would like to suggest that city as the one best adapted for a permanent location of this Society. Macon is centrally located and her citizens are thoroughly identified and in touch with the fruit interests of Georgia, and if we decide to have a home, I know of no place in the State of Georgia that will give you a warmer welcome than the City of Macon, and I propose that we locate there.

Col. STUBBS : I think the question is not the place where we will locate, the question is whether we will locate the meeting at one point, and after we have elected this question we can settle as to a place of meeting.

Pres. BERCKMANS : What guarantee will the Society have that it will not have to go to the expense of securing halls, etc., if we select a permanent place. You all know that our treasury is not in condition to go to the expense of renting halls and a great many other expenses that are incidental to a meeting, and which have been met by the different cities where we have held the meetings heretofore, and for which we have been very thankful.

Mr. HATCHER : I do not think there is a city, or town, or village, or hamlet in the State of Georgia that would not feel honored by the location of a permanent home for this Society, and I do not believe that they would allow the Society to go to the expense of providing the necessary building, etc.

Mr. RYALS : This is the smallest meeting of the Horticultural Society that I have attended in numbers; we have not had before a

meeting where there were not five or six invitations extended us from different cities to hold our annual meeting with them. I think it would be imprudent at this time to take this matter into consideration, therefore, Mr. President, I move that we postpone the consideration of this question of a permanent location for another year.

Pres. BERCKMANS : Before we put this motion, the question is simply this, have we no other invitations ?

Mr. MCRÉE : I am authorized and have the pleasure of extending to this Society an invitation from the citizens of Valdosta for you to hold your next annual meeting in their city.

Pres. BERCKMANS : Are there any other invitations ?

Mr. RYALS : I want to second the invitation of the City of Valdosta. I want to state in this connection that there is no pluckier city in the State of Georgia. There are no better men than the citizens of Valdosta, and they will give you a hearty welcome.

Pres. BERCKMANS : Do you withdraw your first motion.

Mr. RYALS : Yes, sir.

Dr. HUNNICUTT : I think, perhaps, that it would be wise for us to take some action like this ; and I suggest that the Chair appoint a committee of one man from each Congressional District to report at the next annual meeting. The question of permanent location is still before the house and I suggest that this committee take charge of that question. That will give us one year to decide.

Pres. BERCKMANS : You have heard the motion of Dr. Hunnicutt that a committee be appointed to take this matter into consideration and report at the next annual meeting of the Society. What is your pleasure in regard to this motion. Seconded and carried.

Pres. BERCKMANS : Now comes the question of accepting the invitation of Valdosta.

Col. PARKS : The City of Macon has not taken any formal action by the Mayor and Council, and I do not know that Valdosta has, the city in which I have lived for the last twenty-five years has always been ready to entertain the public assemblies that have for their object the welfare of Georgia, and they will be very glad indeed to have us meet there, and I represent the citizens of Macon and extend to you an invitation to meet there the next year.

Dr. HUNNICUTT : Atlanta can extend you an invitation on the same basis.

Col. STUBBS : As there is only one invitation as I understand it, been made, I think that we can afford to be a little cautious. If we

meet in Macon we could put them to the test. The question is what must the Society do. I am not afraid to trust Macon, and I am not afraid to trust any village in this State, except Atlanta.

PRES. BERCKMANS: We have the official invitation to visit Valdosta and Macon.

DR. HUNNICUTT: There is an organization in Atlanta and they have taken charge of and bought the Piedmont Exposition Park and I guarantee you the use of this hall and grounds, if you will come to Atlanta, as much as you can occupy.

PRES. BERCKMANS: Gentlemen, you have heard the different invitations for us to hold our next annual convention in Macon, Atlanta and Valdosta, now we will proceed to cast a ballot and in this way decide our choice.

PRES. BERCKMANS: The vote is as follows: Valdosta, 8; Atlanta, 4; and Macon, 15. Now, gentlemen, if we do not adjourn I think we will have to go without our dinners. What is your pleasure as to meeting this evening.

A DELEGATE: I move we meet promptly at three o'clock. Seconded and carried.

PRES. BERCKMANS: This session is adjourned until three o'clock sharp this afternoon. Gentlemen, please be prompt as we will have only a short time this evening for winding up our business before the train leaves.

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## AFTERNOON SESSION.

Meeting called to order by Pres. P. J. Berckmans at 3 o'clock.

### Report of Committee on Necrology.

*Mr. President:*

Your committee beg leave to report that since our last annual meeting, one of our most zealous and useful members, Captain J. B. James, of Fort Valley, has died. For more years than most of the members of our Society he has been interested in practical fruit growing, and he has long been identified with the growth and prosperity of our Society. About the year 1884 he first became interested in fruit growing for market, and at this time he invested in an orchard of considerable extent at Fort Valley. After several years of failure, the phenomenal crop of 1889 was produced, and the successful marketing of that crop opened to Capt. James the possibilities of fruit growing and fruit marketing for our section of Georgia. In a short time he had organized a number of companies, and a half dozen large commercial orchards of peaches, plums and pears were established, all of which were managed and directed by him until the returns for the fruit justified his wisdom in organizing and establishing the companies. He was interested as stockholder and director in a larger acreage of orchards than perhaps any man in the world. At the time of his death he had sold out his interest in the greater part of these orchards, but his interest

and enthusiasm towards fruit culture remained unabated to the end. As to his private character, as a man and as a citizen, we do not feel called on to make report, further than to say that it was without fear and without reproach, and that he held the esteem and love of his family and his fellow-citizens who knew him, and were thrown with him in the daily rounds of duty and the usual pursuits of life.

He was at our last meeting in Dublin, taking an active interest in all the discussions, and in all that was done. He was active as a committeeman of the Society, and knowing and appreciating the value of this Society, he was ever willing to do what was possible for him to do, to help it in its valuable work. He was, at the time of his death, President of the Fort Valley Fruit Growers' Association, and in this position did valuable work, the benefits of which were aparent in that section. He was public-spirited, progressive and liberal. A Confederate soldier, he won his title of Captain in the open field of battle, and he fought through the great Civil War, till our honorable peace was declared. To sum it all up, he was a good citizen a brave and chivalric soldier, an affectionate father and husband, a public-spirited and patriotic Georgian and a zealous member of our Society; therefore, your committee recommends the passage of the following resolutions:

- 1st. That we deplore the loss our Society, the State and his family have sustained in the death of Captain James; and
- 2d. That we tender his family our sincerest condolence on this their bereavement.

H. A. MATTHEWS, *Chairman.*

Pres. BERCKMANS: I can supplement this resolution, gentlemen, by stating that Capt. J. B. James was one of our most valuable members for twenty years, and I think it ought to be adopted by a rising vote

Maj. RYALS: I move we adopt the resolution by a rising vote. Adopted unanimously.

Dr. NEWTON: I wish to propose the name of my distinguished friend, Mr. Kline, for membership to this Association.

Pres. BERCKMANS: We are glad to have Mr. Kline come into this august body. Now, gentlemen, we have the opening of the question box as one of the subjects of this afternoon's sessions.

Mr. SCOTT: Question No. 1: "If your orchard needs terracing where would you set the trees?"

Col. FORT: I planted my orchard upon a very precipitous hill, sometimes it rains in such enormous volumes that I do not think a terrace would hold the water. I give my trees a waterway, I allow the water to get out as quick as it will. The terrace takes up too much room. I would plant 17 to 20 feet square, then I would run my terrace so as to avoid the trees as much as possible. Probably one or two trees would come upon the terrace. My experience is that the rains that we have had in the last two or three years, no terrace will stop.

Mr. SCOTT : Question No. 2 : "What has been your experience with the Triumph Peach? What soil, fertilizer and treatment have you given it?"

Mr. HAMMOCK : My experience with the Triumph Peach is that it is not a very good peach to grow in our latitude. I do not know whether it is the latitude which causes it or not. In my orchard where I cut the tree back I will get a very nice peach, but I have found that my trees are annually inclined to overbear themselves, they put on too much fruit. In the next place the Triumph Peach at my house, you cannot eat it before rubbing it a good deal on account of the fuzz that is on it. It grows on them, all over, and is very thick and heavy. It is really objectionable on account of that fuzz. I want to find out from the Society some peach to take the place of the Triumph, and I will dig them up. I want to state that the Triumph tree is a hard matter to control. I have cut them back, but they actually incline to run right up and grow daily. I really don't know whether it is the quality of the land or what, but it is a hard tree to control. I can control the other trees I have. I really don't know whether it is best to cut them all off, I did last year, but this year I saw from Prof. Waite's pictures in his book how to trim a tree, to cut it just so high and give it just such a shape. But to do this is a tremendous task. I put a man to cutting back my trees, so he cut and he cut, and finally he began to take them off a little below the measure I had given him, and when I asked him about it he said : "Well, boss, I just got tired." Now I want to tell you that where I thought the trees were literally ruined they made the very best peaches that I had. I believe honestly from my own experience in my own orchard that it would be best to cut them back at least half.

Pres. BERCKMANS : What is the character of your soil?

Mr. HAMMOCK : It was originally hickory land and it is naturally a piece of good ground, and a very choice piece of land. I think the land is rather too strong to make peaches.

L. A. BERCKMANS : The Triumph is naturally a very heavy cropper, you have to thin it a great deal. This year we had some magnificent Triumphs on our place in Hancock [County. I have heard of some one who uses a whitewash brush to wipe off the fuzz.

Pres. BERCKMANS : In New York the retail fruit dealers use a very soft brush to polish them off.

Mr. HAMMOCK : It is a set back to that variety to have the fuzz on it alone. Do you all have the fuzz on your Triumphs?

Maj. RYALS : My Triumphs were not big enough to tell whether they had any fuzz on them or not.

Mr. FORT : I have had a little experience with the Triumph. I keep books at my orchard with much care, and I can distinctly state what I have done with the Triumph. I have seventy-two or seventy-three Triumph trees, a very small part of my orchard, and I made a better crop on my Triumph than I did on the other parts of my orchard, and I shipped them and I got exactly \$110 on these seventy odd trees. I sold about 100 crates of Triumphs. I netted \$110 on 72 trees.

Mr. HALE : I would like to ask Col. Fort if he will plant it again or recommend it to his neighbors?

Col. FORT : I think it is a poor peach; it is inclined to rot. I do not think it is much of a peach, but I made a good record with mine this year. But I would not discard it entirely. I have planted about 200 trees more to supplement my seventy-two in order to ship a carload of Triumph. I ship about the 4th of July from my orchard.

Pres. BERCKMANS : Now, what peach would you top graft the trees with if you should discard the Triumph?

Mr. FORT : The earliest I have is the St. John and the latest the Henrietta, I have had no experience with the earlier varieties of peaches.

Mr. SCOTT : For Mr. Hammock's section I would suggest Carman.

Mr. HAMMOCK : I want to state to the Society that I did very well with my peaches this year, but then I don't want to put such a peach as the Triumph on the market. I don't feel exactly right to sell such peaches if I could get a better. Except for seventy-one crates that I shipped to Phillips & Son, New York, I think they wrote me that they were dealing with honest men and that they had lost \$14.72 on the peaches I had sent them; with that exception, I think I got something out of all the peaches I shipped.

Mr. SCOTT : "Is not Lady Ingold a better peach and will it not take the place of Triumph?" is the Third Question.

Mr. MATTHEWS : I would say according to my experience with it it would not. Lady Ingold is a later peach and a very shy bearer. We are discarding Lady Ingold as a too shy bearer.

Mr. RYALS : I have had a good many Lady Ingold peaches, but I pulled them up for the same reason.

Mr. SCOTT: Fourth Question: "What has become of the Indian peach, so popular before the Civil War."

Pres. BERCKMANS: Here is an instance of the gradual deterioration of fruits. For the last eight to ten years we have not been able to get any good Indian peaches, what we call the Columbia. They seem to be getting inferior in quality.

Mr. HAMMOCK: I have a neighbor who has a tree which he calls the Indian Blood Peach. It seems to me that they are a little more round than the Indian Peach. I do not know but that one tree.

Pres. BERCKMANS: It is fast disappearing from our markets.

Mr. SCOTT: Fifth Question: "I have a fine, handsome, young pecan about 20 feet high. It has blossomed for about four years, and the blooms seem to be the same as others, yet it don't bear. Is there anything that I can do to assist it. It is very vigorous and makes a good growth, as it is a seedling and fully a mile away from any other, so I have nursed it well. I have compared a stem of blooms with others about a mile away and see no difference?"

Pres. BERCKMANS: You all know that the pecan, like other nut trees, is dioecious, that is to say that they have male and female flowers upon the same tree, and sometimes the male flowers appear first and drop their pollen before the female flowers are ready to open, this is sometimes owing to inclement weather. Now, in this gentleman's case, I cannot say what is the reason of his tree not bearing. The female flowers usually open later than the male flowers, and if he compared the flowers of his tree with another in bloom at the same time, perhaps they were both male flowers.

Mr. SCOTT: Sixth Question: "Is it best to pick off a portion of a heavy crop each season, and can you receive better yearly crops by so doing?"

A DELEGATE: I do not know that you can secure a better crop of fruit the next year, but you can secure an increase in the size of the fruit left on the tree.

Mr. WADE: What called forth that question is this: Col. Fort's orchard had a remarkable crop of fruit on it. My experience in growing peaches is that we ought to take off all the peaches so as to leave them about 3 to 4 inches apart upon the tree. I have seen Mr. Hale, in fact, picking the peaches off and leaving them 3

to 4 inches apart, so that he could to a positive certainty have a crop. Now if this is advantageous we ought to know it. What I want to get at, Is it a fact that you can save your crop from one year to another by letting your trees bear very few peaches?

Mr. SCOTT: Without going into further discussion, I would say here that I heartily agree with the line of argument given by Mr. Wade in thinning the fruit. Peaches that bear heavily should be thinned.

Mr. HAMMOCK: I want to ask this question: Does a tree receive any injury by taking off the fruit before it is ripe; and at what special time ought you to take off the fruit?

Pres. BERCKMANS: You know that the object of the tree is to perpetuate its species, and whenever the stone in the peach hardens that object has been accomplished. In other words, after the stone begins to harden then the thinning out should stop. The fruit of the peach is the kernel that is inside of the stone, and the substance on the outside of the stone is merely the fleshy envelope or covering of the seed. And the larger the fleshy covering the weaker the seed will be.

Mr. WADE: It is my idea that the strength of the tree is spent in the production of the pit, and if we pick off the peach before the pit is formed that we save the life of the tree for the next year.

Pres. BERCKMANS: The strength that should have gone into the seed of the peach you have picked off goes into the fruit that is left on the tree. Now take the case of the Botan Plum, which is very apt to overbear. If you do not thin it out you get only a small fruit; if you thin it out before the pit has formed you increase the size and flavor of the fruit left on the tree. This is about the best example that I can give you.

Mr. SCOTT: The next thing we have in the box is in the shape of a resolution:

WHEREAS, The "Insectivorous Birds," are of great assistance to the horticulturist in preventing serious damage in orchards and gardens, hence ought to be protected;

*Resolved*, That we petition our incoming Legislature for a law for their protection with ample fines for the purpose;

*Resolved*, That we ask the Agricultural Society and other kindred societies to sustain us in our prayer.



Pres. BERCKMANS: I think that is a very good resolution and one which ought to be considered by the Society, and a copy made and presented to the Agricultural Society. Adopted.

Pres. BERCKMANS: Now we have the matter of appointing delegates to the Agricultural Society Convention. How shall this be done? Who desires to go? I might appoint somebody who may not be willing to go, and I prefer that you name those of the Society that are going.

A DELEGATE: I move that Mr. Hammock be appointed. Seconded and carried.

Mr. SCOTT: I would suggest the name of Mr. R. C. Berckmans as a delegate.

Mr. R. C. BERCKMANS: I cannot possibly go, it is entirely out of the question. I thank you very much for the compliment. I would suggest the name of Prof. Scott.

Prof. SCOTT: If I go I will go in another capacity and it would be better to select three other members besides myself.

Mr. HAMMOCK: I take pleasure in putting in nomination my friend Mr. McRee. Seconded and carried.

A DELEGATE: I suggest the name of Mr. Jno. T. Williams. Seconded and carried.

Mr. SCOTT: Here are two or three communications to be read:  
AMERICAN POMOLOGICAL SOCIETY,  
OFFICE OF THE SECRETARY.

WASHINGTON, D. C., August 6, 1901.

*Mr. P. J. Berckmans, President Georgia State Horticultural Society,  
Milledgeville, Ga.:*

MY DEAR MR. BERCKMANS: I have just noticed in the National Nurseryman that the annual meeting of your Society occurs on the 7th and 8th inst., at Milledgeville. I mail you to the above address a few copies of the programme of the Buffalo meeting to be held Sept. 12th and 13th. Some of your members may be interested in this meeting. I wrote to Secretary Miller some months ago inviting your Society to send delegates to Buffalo, and hope that Georgia may have a good representation there headed, of course, by yourself. The prospects for the meeting are excellent both as to attendance and programme. We hope to print a list of the Society delegates in advance of the meeting, probably about Sept. 1st—and I therefore hope that the names and addresses of your delegation may reach me in advance of that date.

With personal regards to yourself and family, I remain,

WM. A. TAYLOR, *Secretary.*

Pres. BERCKMANS: If any of you gentlemen intend to go to Buffalo at that time, we would be pleased to appoint you as delegates. In the time gone by we have frequently had as many as eight or ten delegates to this Society.

Mr. R. C. BERCKMANS: I would suggest the name of Col. Wade.

Mr. L. A. BERCKMANS: I nominate Mr. Ruggles as a delegate.

Dr. NEWTON: I beg to suggest the name of Mr. Peter J. Kline.

Mr. SCOTT: The following is a list of the delegates: Col. I. C. Wade, F. A. Ruggles, Peter J. Kline and P. J. Berckmans, Chairman.

Dr. NEWTON: I wish to present a resolution:

*Be it Resolved*, That the officers and members of the Ladies' Garden and Floral Clubs of Georgia, be most cordially invited to attend our next annual meeting at Macon, 1902, and that the railroads of our State be requested to extend to same such courtesies in transportation as may be shown the Society. Seconded and carried.

Mr. FISKE: WHEREAS, The Georgia State Horticultural Society has been hospitably received and entertained by the people of Milledgeville, a courtesy which has added so much to the pleasure of the Society, as well as aiding the Society in the transaction of their business,

*Resolved*, That the Society extend sincere thanks to the citizens of Milledgeville and express to them herewith appreciation of the courtesies extended in its behalf. Particular thanks be tendered to Dr. Newton, Mayor Horne and the ladies for the attention received.

*Resolved further*, That the Society express its thanks to the Southern Express Company for the favors so freely granted to the members of the Society. Seconded and carried.

Dr. NEWTON: WHEREAS, The active and earnest co-operation of all the fruit-growers of the 137 counties of Georgia, is essential to the prosperity of this Society. We hereby authorize the Judge or Ordinary of each County of our State, to receive and forward to our next annual meeting a basket or package of the specialties in horticulture in his County.

Pres. BERCKMANS: The time has arrived when we must board the train for our homes. Before we adjourn I desire to thank you one and all for the kindness you have shown me as your Presiding Officer; the leniency with which you have overlooked my shortcomings. Especially do I hope that during the time we are in vacation you will enlist your neighbors in the interest of the Society. Now, my friends, I know I can call you so, I bid you all a cordial farewell until next year. The meeting is adjourned.

## Report of the First Congressional District.

*To the Georgia State Horticultural Society:*

As Vice-President of the Society for the First Congressional District, I have the honor to submit the following report for the year:

I have made no new experiments during the year and therefor have nothing to report on this line that would be of interest. I made one discovery, however, for which I did not seek. Last year my crop of peaches at my orchards in Worth County was saved from destruction by brown rot by the application, in the prescribed method of the Bordeaux mixture. Although this year the same treatment was given the trees, it did not avail and my crop, as well as those of my neighbors, was almost completely destroyed.

I have a theory which I think may account for the failure of this Bordeaux mixture to give the protection against brown rot that it has in the past. The peaches this year were from fifteen to eighteen days later than they were last and I finished spraying the trees with the mixture three or four days sooner. I think it possible that the length of time that elapsed between the last spraying and the maturity of the fruit accounts for the destruction of the crop by brown rot and I should like to discuss with my brothers of the Society the question whether, had I sprayed another time, it would not have resulted in saving the peaches.

Cantaloupe growing and shipping have become a large and extensive industry in southwest Georgia and many of the horticulturists of that section are pursuing it with profit.

As far as I have been advised the crop of pears this year has been short, although one of this fruit's worst enemies, the blight, does not seem to be so prevalent among the trees as it has been in the past. Plums are not as generally cultivated as they have been, though some are still engaged in their culture and are selling the fruit with profit and to good advantage.

Respectfully submitted,

G. M. RYALS,

SAVANNAH, GA., August 1, 1901.

*Vice-President, First Congressional District.*

## Report of the Second Congressional District.

*To the Georgia State Horticultural Society:*

DEAR SIR: We beg to report an average crop of all fruits. Grapes come nearest of being a full crop.

CAIRO, GA.

DEAR SIR: You ask for some fruit notes.

Rot! rot! rot! This tells the story of the fruit crop, with jarring curculio and spraying for rot together with all the other necessary precautions, commercial peach growing might be made a success here. Otherwise better grow cotton. The same in turn as to the Japan Plums. The apple, though grown with indifferent success in this section, has been rendered almost worthless since they have blighted so badly.

The Le Conte is still king of fruits with us. Around Cairo the crop this year is only about half of what it was last year, but prices realized for it have been considerably better. The Keiffer crop is also short. The pecan, of course, continues promising.

Our horticulturists need to awake to the advantages we have for Fall and Winter gardening.

Truly yours,

"J. B. WIGHT."

A pear grower gathered four cars of his neglected orchard, loaded in bulk and received a fine price. He said he would have gathered more but the broom sedge was so high it interfered with the crop. This same man is going to plant out 1,000 Le Contes this coming season.

The people of South Georgia are learning more and more about the Le Conte and learning to appreciate it more. Le Contes are pulled and shipped green and in many cases before they are grown. This is not the pleasure of the growers, but of necessity has to be done for profit. The market demands green, sound fruit, and pays much better prices for it than grown fruit. Melons this year was short in acreage and yield, but prices usually good. From \$10 to \$20 per acre, net were the returns.

Respectfully submitted,

THOMASVILLE, GA., August 1, 1901.

B. W. STONE, *Chairman.*

### Report of the Third Congressional District.

Since the last report made by the Vice-President of this district, we have had two crops of peaches and plums, and though nearly all growers have suffered more or less from unusual prevalence of rot, both in 1900 and 1901, still there is not by any means any general discouragement. The crop the present year, though smaller than that of last year, was perhaps, on the whole more satisfactory in pecuniary results, which is due to the fact that the markets were not so full as when we sent in the larger crop of the previous year. The quality of the fruit was perhaps a little better, but there was by no means an ideal condition of the fruit. There is no doubt that the difference in financial returns was due principally to the fact that the supply was smaller, which demonstrates what we have noticed during the last ten years, that the markets of the East, to which we must look for our best results, will take only a limited amount, even of the finest fruit, at fancy prices.

As is well known, this section of the State furnished the pioneer of the peach growing business on a large scale for distant markets, in the person of Mr. S. H. Rumph, the originator and introducer of the Elberta peach, which stands at the head of the list throughout the world. Following his lead others gradually went into the business until now peach growing is one of the principal occupations of large sections. Experience of growers through the last twelve years has shown that the most profitable peaches for market have been as follows: Rivers, Tillotson, Belle of Georgia, Elberta and St. John. These have been the staple varieties, from which the best results have been derived. During the last four years, however, there has been something of a change of sentiment as to the relative value of some of these varieties. Of course Elberta still holds the principal place, and there is no abatement of appreciation of the Belle of Georgia—St. Johns has lost rank, however, and Tillotson, though conceded to be a thoroughly excellent peach for general purposes, and even for market, is yielding, in the popular estimation, to the Hiley's, which ripens with it and with the St. Johns, and which is considered superior to both in most qualities that make for success in a market peach. This peach, the Hiley's or Early Belle as it is also called on account of its resemblance to the Belle of Georgia, is being planted quite extensively in place of the other peaches that have the same period of maturity.

There is another peach that is being planted on a limited scale, from which many growers expect great things. This, like the Elberta, the Emma, and the Belle of Georgia, originated at Marshallville, the pioneer peach town of the State. This is the Slappey, a peach that is a yellow freestone, large, oblong, much like the Elberta in shape, except that it is more oblong, and that ripens ten days to two weeks ahead of the Elberta. It is safe to say that if this peach shows that it is a reliable bearer and a vigorous grower it will be one of the prime favorites. The Hiley's, however, has

been sufficiently tested to have a great many friends, and it will figure very largely in future crops in this section.

Most growers in this section have been disappointed in the Emma. This peach has succeeded very finely for Mr. S. H. Rumph, the introducer, and he made phenomenal crops of them, both last year and this while others failed entirely both years to get any crops at all. This peach was also a very profitable one for Mr. Rumph, and it seems that it can only be due to the fact that Mr. Rumph has different quality of land from most of the other growers that have attempted to grow this peach. His land is a very stiff variety of clay land, while most of the land of this section is of lighter and more sandy character.

Pickett's Late has proven to be a failure in this section, and it should be known that it is utterly unreliable. Salway has proven to be all right, and it is recommended for a late peach, three to five weeks later than the Elberta. Mr. Rumph recommends very highly a new freestone that he has found, and is fruiting, which he calls the Eva, a later peach than the Salway. This, also is a large freestone, of rather dry texture but of excellent flavor. The fact that Mr. Rumph recommends this peach is a fact very much in its favor, and it is therefore worthy of attention.

This suggests some considerations that should be profitable as to the selection of varieties for market planting. In this section of the State, much attention should be paid to the growing of the earlier varieties of peaches, on account of the fact that we have practically no competition as to the earlier varieties. I do not mean the extra earlys, as these are of uncertain value, the market taking a very limited amount of these on account of their inferior quality as compared with any of the late June or early July peaches. The Carman, Waddell, Hiley's, Belle of Georgia, Elberta and Salway make a list that would be profitable to consider in selecting the assortment that a grower proposes to plant. I may say that the general idea of growers of experience here, is that these are the varieties to select from, for market purposes.

If the orchard is to be set in the upper part of the State, it would not be advisable to plant the earlier varieties, because when they come in there, they would meet competition of the Elberta here, which of course would be disastrous to them.

I will close the report by referring to the fact that the San Jose scale has become very generally disseminated in this section, and well nigh every orchard is more or less infected, as shown by recent investigations of the Entomological department. Very general preparations are being made to fight the pest on a large scale, and the growers have no idea of giving up what has proven to be a profitable business without an effort.

In some orchards here, there are indications that point in the direction of a hope that the scale is losing its vigor and aggressiveness. That it has found here natural enemies is certain, and the fight for the survival of the fittest will be watched with the keenest interest, and the growers are preparing to help the enemy in every possible way.

As to the brown rot, it is worth recording, as to the experience of the last two years, the only orchards that were entirely saved from the attacks of the Monilia Fungus, were orchards that were sprayed with Bordeaux to the point where they lost a large part of the foliage of the trees. This fact, taken in connection with the experience of many who used the same treatment, but who stopped short of partial denudation of the foliage, would seem to indicate that possibly the stopping of the growth and the interference with the vigor of the flow of sap to the tree and to the fruit, might have more to do with the prevention of the destruction of the fruit, than the mere killing of the spores of the fungus.

H. A. MATTHEWS,

*Vice-President, Third Congressional District.*

## Report of the Fourth Congressional District.

*To the Georgia State Horticultural Society:*

Fruit growers throughout this district are very much discouraged by short returns from last year's crop, and as it is too early yet to tell what the present crop will bring forth. I am somewhat at a loss to make a correct report on the true condition of the business. So far we have done fairly well. Strawberries bore a fine crop, no rain during the season, but prices were a little off from last year's figures. Early peaches and plums almost a failure, rain and rot the cause. Apples are no good this season.

Good crop of grapes, but unless prices pay this line of horticulture will soon be discarded. Last year grapes did not pay expenses.

Curculio, borers, codling moths and many fungous diseases are sure to stay by us. Spraying this season has done but little good. Last year spraying paid well.

I have several new varieties of fruits that promise to be very valuable throughout this section.

Richmond Everbearing Apple, Mary, Pauline and Lynch's October Peaches. All these varieties are doing exceedingly well in this (Coweta) County.

No Synonyms.

So many vineyards have been abandoned throughout this and adjoining counties that I am unable to tell anything as to how much fruit will be shipped this season, but it won't amount to many car loads.

No melons or vegetables grow in this district except only for domestic use and to supply local markets.

Transportation is about the same it was last season. Summing the whole business up I must say that horticulture is gaining no ground in this section.

Respectfully submitted,

JAMES CURETON.

MORELAND, GA., July 29, 1901

*Vice-President Fourth Congressional District.*

## Report of the Sixth Congressional District.

*To the Georgia State Horticultural Society:*

The splendid and rapidly increasing and enlarging orchards in the Sixth Congressional District of Georgia have done remarkably well during the present season of 1901. The fruit, particularly peaches and grapes, as well as melons, have met with ready sales and fine returns. The excessive rains of 1900 have not prevailed this season, and orchardists have been much encouraged. Local sales have been very good, as well as those from distant shipments. The Carman, Elberta, Emma and St. John have proved perhaps much more profitable than any other varieties.

The demand for peaches for pickling and preserving is greater than usual, but the supply is very limited. White English peaches and later varieties should have more attention.

Canning deserves greater attention than ever before, and much profit is lost by neglect of this valuable adjunct to the orchard.

R. E. PARK,

MACON, GA., August 3, 1901.

*Vice-President Sixth Congressional District.*

### Report of the Seventh Congressional District.

*Mr. President and Gentlemen of the State Horticultural Society:*

At the request of Col. Waring, our Vice-President for the Seventh Congressional District, we will add a few notes to his report. Our peach crop in our Congressional District is a good one this year in orchards that have been well cultivated and properly trimmed. In orchards where cultivation has been neglected and which have not been properly pruned the fruit is small and considerable mildew shows. But orchards that were cultivated last year, so as to produce a good growth of wood, set a fine crop of peaches this year, and where cultivation was kept up matured fruit of good size and well colored. A number of orchards had to be thinned out. The early varieties, such as Sneed and Triumph, bore a good crop but were in a measure valueless in the market. A few carloads of Triumph netted about 60 cents per crate after paying freights and commissions. Other cars again of the same variety did not pay expenses, and unless they were severely thinned they were too small and in some orchards showed some rot. The early peaches are not profitable with us in North Georgia, for by the time they ripen with us, Middle and South Georgia are sending better peaches to market. As Col. Waring says in his report the Elberta is still the favorite. It will yield more crates to the acre than any other variety that we grow, and it always brings good prices with us, as it fills in a gap between Middle Georgia peaches and those from Delaware and Maryland. Lady Ingold with us showed a little rot this year. The local variety which is called Beauty's Blush, did very well this year. It resembles the Belle of Georgia somewhat, but was more highly colored than that variety. Belle of Georgia, on orchards that are making a vigorous growth are inclined to lack color, unless potash was liberally applied to the orchard. Mt. Rose did only fairly well. The Emma is somewhat variable this year. In some orchards on good lands that are well cultivated they are a magnificent crop, whereas in other orchards they will not produce half a crop. We cannot account for this variation in the same neighborhood and on soils apparently very much alike. We think, however, that the Emma if planted should be planted on good soil and receive the best of cultivation. The plum crop in this section was almost a failure. We had some plums but they were not fine. Those that set out the trees were stung by curculio and troubled with rot. Grapes are not an average crop, vineyards are being neglected in this section, not receiving the proper cultivation and not being sprayed as they should be. We notice where a peach orchard was sprayed after, say fruit was set when they were in full leaf, there was more injury to the foliage than usual this year, some orchards losing more than half the leaves. We do not know, however, that it affected the crop particularly. But where they were properly sprayed there was no rot. We had one orchard of Mt. Rose that was well sprayed, but the fruit was very badly bruised by a hail storm some weeks ago, yet these peaches that were some of them split to the seed by hail, ripened up perfectly sound. If the orchard had not been sprayed we would certainly have expected them to have rotted very badly. Strawberries where grown in our district were good crop and brought remunerative prices. Apples and pears very light crop this year. A great many new peach orchards are being planted in our district and we think the prospect is that in a very few years Northwest Georgia will be the leading peach section of the South. We are just now in the middle of our Elberta harvest and we are glad to say that peaches are bringing remunerative prices. Sales F. O. B. here have been made at \$1.20 and \$1.25 and the market is still advancing. I need not express to you my sincere regrets that we are unable to attend this meeting of our Society.

G. H. MILLER,

ROME, GA., August 5, 1901

*Vice-President Seventh Congressional District.*

## Report of the Eighth Congressional District.

*To the Georgia State Horticultural Society:*

Unfortunately the natural advantages of this section have been, as yet, inadequately exploited, owing to the prevailing impression that the proximity of the Blue Ridge renders fruit-growing here uncertain and unprofitable, by reason of the sudden changes of temperature to which the region is generally regarded as subject, whenever a north-west wind sweeps down from the mountain tops. It has been also asserted that the climate is abnormally humid—relatively so, at least, when compared with ideal conditions.

Even should these assertions be passed unchallenged—which no good citizen of the Eighth District would for a moment contemplate permitting—the fact yet remains that there are local areas of greater or less extent—"oases of excellence"—spotted here and there over the district, where both soil and climate are as suitable and as satisfactory as any in the State—and really this is all that may justly be claimed by any region. No country, throughout every part of its lateral extent, is adapted to the growth of any one standard fruit or product—much less to all.

Intelligent and progressive men are gradually discovering these isolated areas, as rapidly, perhaps, as is consistent with healthy and profitable development; and, in a very few years a marked difference in the extent of the fruit industry, of which Athens is the center, will be apparent.

Already preparations are on foot for the establishment of extensive commercial orchards in this vicinity, particularly of peaches. A decided partiality for this fruit has been developed by its creditable behavior and substantial returns during the past four years—though the cautious planter still deems it a safer, if less brilliant investment, to put his bottoms in winter apples and wait for the profits—and he is right. Yet fortunately the one does not trench upon the other.

The present season has not been, altogether, as propitious as could be desired.

*Peaches*—Two-thirds of a full crop, at best, is the average report; quality inferior; *Monilia*, or Brown Rot, playing sad havoc with most orchards, by reason of the abnormally wet season. *Curculio* not so severe. Small orchards and gardens have experienced more rot than commercial planting, and naturally, since the soil of the "home acre" is apt to be richer, and an excess of organic matter in the soil proves a severe test for fruit in a wet season. Besides, the professional grower is much more likely to combat disease with fungicides, and this has been a year in which the spray-pump has done some lively preaching.

"Elberta" still remains the general favorite, and in the market nicely sandwiches between the Fort Valley region shipments and those from Cherokee, Georgia. "Emma" proves less valuable here than farther south, since it conflicts with "Elberta" from Marietta, Adairsville and Rome.

*Apples* are sadly "off." From a third to a half a crop is reported, inferior in quality, watery, wormy and deformed. Too much rain. Yet they should occupy every bottom in north east Georgia, for all that, and good missionary work to this end is being planned.

*Japan Plums* are gaining favor for home markets—Atlanta, Augusta, Charlotte and sometimes for farther shipments. "Red June," "Abundance," "Hale" and "Wickson" are the favorites, the last growing rapidly in popularity because of its perfect growth and symmetry and handsome fruit. The crop rotted badly this year, of course, when unsprayed, but the curculio was only moderately troublesome.

*Native Plums* receive little attention. Even "Wild Goose" is no longer planted. The *Triflora* (Japan) type seems to have entirely superseded all home varieties—and justly.

*Cherries*, too, have done badly. *Hearts*, *Bigarreaus* and even *Dukes* defoliate prematurely and are nowhere satisfactory. *Morellos* are much better and should be



more largely planted, particularly "E. Richmond," which is reasonably certain, very productive and always finds a ready sale at good prices, despite its quality.

*Pears* cease to interest the "Eighth Districter." He still clings to "Seckel," and wisely, for it blights here but seldom. "Keiffer" still holds up fairly well, should anyone really care for it, but hope is gone, here as elsewhere, for "Bartlett," "Duchesse" and other tempting memories of departed days.

*Quinces* are also below par. If you won't spray them off goes their foliage in August, and a leafless array of naked skeletons confronts you whose immature branches mutely appeal for the pump. A little pains, however, supplemented with abundant Bordeaux, will be well rewarded, for Quinces bring \$2.50 per bushel in any market, and none to be had.

*Figs* in this section have now survived intact for several years, are attaining considerable size again and should have borne heavily this season, but the first crop was a failure and the second may not yet succeed in maturing by reason of the excessive rains, and a probable early fall. Next year, if the coming winter spares the trees, there should be a bountiful crop. "Brown Turkey" is the most commonly planted variety, and does extremely well; "Celestial" fairly well; "Lemon" ferments too readily here, and "White Ischia," the King of Figs for every dry locality in the State, finds the humidity here too much against it for the perfection it attains at the State Experiment Station and other points.

*Small Fruits*—particularly *Strawberries*—were badly injured by the early spring drouth and a rather poor crop was the result. "Lady Thompson" still remains the best "all round" market berry for this section, though it could be a little larger without doing violence to the feelings of anyone. "Star" has proved a large, fine mid-season variety, while "Brandywine" and "Haverland" (P) are yet to be displaced for late berries.

*Melons* have done quite well this year, though not exactly "straining" themselves by unusual effort—nor have *Kitchen Gardens* been particularly distinguished. The same story comes from all sides—"Rain, rain, rain!"

*Tomatoes*, notably, have been maledicted from one end of the district to the other for their unaccountable and inconsiderate behavior. On investigation the chief cause of the complaint proves to be "mildew" (*Cladosporium fulvum*) a fungous affection not generally producing much damage; but this year's climatic conditions have acutely emphasized its capacity for annoyance. Fortunately the malady yields readily to the spray-pump. Bordeaux mixture is an almost certain remedy when seasonably applied.

On the whole, the present year cannot be pronounced a marked success in the Eighth from a horticultural standpoint; but prices have kept up and we still live in hope and trust for "better luck next time."

Respectfully submitted,

HUGH N. STARNES,

ATHENS, GA.

Vice-President Eighth Congressional District.

## Report of the Ninth Congressional District.

To the Georgia State Horticultural Society:

There is increased interest being manifested in fruit growing, and some commercial orchards are being planted in this district, but few of them are yet old enough to bear fruit.

The unfavorable weather conditions this season caused a large per cent. of all classes of fruit to rot. Among early peaches, Alexander and Triumph suffered most, while Sneed, Mamie Ross, Malcom and Mountain Rose were, in a measure, free from rot.

Peaches and apples which are ripening now are rotting nearly as bad as the early varieties did.

Grapes that were not sprayed have nearly all rotted.

It will, no doubt, pay to spray our orchards as well as our vineyards.

Wilson's Golden is a new apple that was originated near Maysville, Ga.; it is medium to large, yellow, fine flavor and a fairly good keeper. I have kept apples from the original tree until Christmas.

The Mamie Ross, although not new, is but little known, it is a white peach with red cheeks, as large as Early Rivers, ripens at the same time, is firmer and better flavor than Early Rivers.

Respectfully submitted,

J. G. JUSTICE,

*Vice-President Ninth Congressional District.*

## Report of the Tenth Congressional District.

*To the Georgia State Horticultural Society:*

The fruit crop, in general, is about 60 per cent.

*Peaches.*—The majority of varieties set a full crop, but owing to excessive rains just before the ripening of the early sorts, brown rot set in and caused almost an entire failure of Alexander, and in some sections Triumph, but this variety did not rot in some favored localities and upon high sandy lands. Some orchardists are top-working the Triumph with other varieties. This is done in the following manner:

*Top-Working Peach Trees.*—The best method of top-working, or rebudding peach trees, is to cut off the limbs in a symmetrical manner, cutting back to within one to two feet of the body of the tree. On each limb leave a small shoot to draw sap. In a short time after the limbs have been cut off the new shoots will appear; rub off all except those in which you wish to insert the buds, these of course should be left at the most advantageous points, so that when the tree forms a new head it will be of a symmetrical shape. As soon as you have cut off the limbs fertilize and cultivate the orchard immediately, being careful not to mutilate the roots. In a few weeks the new shoots will have attained sufficient size to permit their being budded. To be safe insert two buds in each shoot, all around the tree, and let these be at an equal distance from the ground. It is possible these buds will remain dormant until the coming spring. In January or February cut back the tops above the buds, and after they have started out care should be taken in rubbing off all sprouts which will come out from the main body of the tree. If the buds have attained a height of ten or twelve inches it would be advisable to pinch in the tops, as top-worked trees make a heavy growth, and if not pinched back the buds are apt to be blown out.

By proceeding in the above manner you will lose only one year in your orchard.

The following varieties gave about 50 per cent. of a crop: St. John, Mountain Rose, Bell, Thurber, Greensboro, Elberta and Carman.

*Pears.*—LeConte and Keiffer, 80 per cent., blight not so bad as last year.

*Plums.*—Nearly all varieties of the Japan type produced a full crop, but rot was also very disastrous to many varieties, the following being the greatest sufferers: Hale, Wickson, Kelsey, White Kelsey, Mikado, Georgeson and Burbank.

*Apples.*—A fair crop for this district.

*Grapes.*—A good crop.

*Strawberries.*—A fair crop and remunerative prices which held up during the entire season; Hoffman, Lady Thompson and Michel are the best market varieties for this section.

*Blackberries.*—A heavy crop. Erie, Wilson and Early Cluster are the best varieties.

*Dewberries*.—A good crop. Austin's Improved produced an enormous crop which ripened 10 days ahead of any other variety. Fruit bringing from 10 cents to 15 cents per quart. This is a very prolific variety.

*Raspberries*.—A 25 per cent. crop.

*Pecans* are being planted in large numbers, but regret to learn that irresponsible parties are selling seedling pecan trees in great numbers as grafted and budded trees.

*Japan Walnuts* have fruited well for the past two years; trees so far hardy; early Bearers and nut of excellent quality. No doubt when this nut becomes well known it will sell readily.

The planting of commercial orchards are largely on the increase. Since our last report over 100,000 peach trees were planted last winter in our district, and the prospect is for a material increase in the acreage the coming season. The planting will consist of the following sorts: Elberta, Emma, Carman, Bell-Hiley, Mountain Rose, Tillotson, St. John and Waddel. There is a decided improvement in the cultivation, pruning and fertilization of orchards in this district, although we notice in some sections a large number of orchards which have been sadly neglected.

The spraying with Bordeaux for brown rot has been very effective when carried out in a thorough and scientific manner. Unless spraying is done in a most careful manner, and at the proper time, failure will surely follow, and not infrequently serious damage will be done to the trees and fruit.

Peach leaf curl made its appearance to a very limited extent and no damage done. Rosette is quite prevalent this year. The San Jose scale has been reported in Glascock County. Curculio is with us as usual, jarring the trees and catching the insects on screens made for the purpose, is the best remedy. Vegetables of all varieties were abundant, but much complaint in some sections of rot in tomatoes. Bordeaux spray would, no doubt, remedy this. Colorado Potato Beetle is very abundant, but is readily kept in check by Paris green, London purple or arsenic.

*Cantaloupes*.—A large crop but of poor quality owing to excessive rains. No shipments.

*Melons*.—A fair crop for local markets brought fair prices.

*New Varieties of Fruits*.—None worthy of growing upon a large scale, but some promising sorts, worthy of further trial. The Mamie Rose peach, although not a new variety, has done remarkably well for the last two years, ripens with Tillotson, but superior to that variety in color, size and quality.

A canning factory has recently been started in Sparta, Hancock County. This is a good start in the right direction.

Respectfully submitted,

N. MCINNIS,

Vice-President Tenth Congressional District.

## CATALOGUE OF FRUITS.

### PLAN OF CATALOGUE.

To enable the Society to publish a full and reliable catalogue of fruits which are successfully cultivated in Georgia, and in view of the vast differences which the climatic influence of the several sections of our State has upon the same fruit cultivated upon the mountains or near the seacoast, it has been deemed advisable to divide the State into four distinct sections.

1. The *Upper or Mountain Region*, embracing that section of Georgia between the 34th and 35th degrees of latitude N.

2. The *Middle Region*, between 32d and 34th degrees, including the Southwestern portion of the 32d degree, except the counties named for Southern Region.

3. The *Southern Region*, comprising the counties of Baker, Berrien, Brooks, Charlton, Clinch, Colquitt, Early, Echols, Lowndes, Miller, Mitchell, Pierce, Thomas and Ware.

4. The *Lower or Coast Region*, comprising the counties of Chatham, Bryan, Liberty, McIntosh, Glenn and Camden.

The explanations of the columns will be found under each class of fruits.

The varieties named in the several lists are of recognized good quality, inferior or rejected varieties being omitted.

Synonyms are given in a few instances only where it was deemed necessary; these are placed under the adopted name in *italics*.

One "\*" indicates that the varieties succeed well in the region named at the head of the column. Two "\*\*" indicate the varieties most highly recommended. No "\*" indicates no report, or that the variety is not sufficiently tested. A dash "-" indicates that the variety is unsuited.

### APPLES.

#### EXPLANATION OF COLUMNS—

Column 1—Name of varieties.

Column 2—Season of maturity.

Column 3—The particular use for which it is best adapted.

Columns 4, 5, 6 and 7—The regions for which the varieties are recommended.

Column 8—Remarks.

#### EXPLANATION OF ABBREVIATIONS—

Column 2—*Seasons*—S, summer; A, autumn; W, winter; E, early; L, late, E S, early summer; L W, late winter, etc.

Column 3—*Use*—K, designates varieties recommended only for the kitchen or cooking purposes; D, for drying; C, for those specially intended for cider; M, those most valued for market. Varieties not marked may be considered as table or desert sorts.

## APPLES.

NAME.	Season.	Use.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Astrachan Red.....	ES	M	**	**	**	**	Profitable early market; very prolific.
Ben Davis, <i>syn.</i> , <i>New York Pippin</i> .....	LW	.....	**	*	.....	.....	Second quality, excellent keeper.
Buncombe, <i>syn.</i> , <i>Meig's Red Winter Pearmain, Red Fall Pippin</i> .....	A	M	*	**	.....	.....	[bloom buds. Excellent. In some soils liable to blight of
Black Warrior.....	LW	.....	**	**	.....	.....	Excellent; fine keeper; prolific.
Bonum.....	A	M	*	*	*	*	An excellent late fall apple.
Carter's Blue, <i>syn.</i> , <i>Lady Fitzpatrick</i> .....	A	M	.....	**	**	*	Large; sugary; very fine; splendid grower.
Carolina Greening, <i>syn.</i> , <i>Green Crank, Southern Greening</i> .....	W	M	**	**	.....	.....	Excellent.
Carolina Watson.....	S	M	*	*	.....	.....	Very large, prolific; profitable market.
Cullasaga.....	EW	.....	**	*	.....	.....	Requires strong clay soil.
Chattahoochee.....	W	.....	**	*	.....	.....	Excellent and fine keeper.
Disharoon.....	A	.....	**	*	.....	.....	Good quality; fine grower.
Early Harvest.....	ES	M	**	**	**	**	Universal favorite.
Elgin Pippin.....	A	M	.....	**	.....	.....	Large and very good.
Equinetelee, <i>syn.</i> , <i>Bachelor, Buckingham, etc.</i> .....	A	M	**	**	*	*	Very good, needs strong soil; subject to borer
Etowah, <i>syn.</i> , <i>Cooper's Red</i> .....	W	M	**	**	**	**	Very good; fine keeper.
Fall Pippin.....	A	M	*	*	.....	.....	Large and very good.
Family.....	S	M	*	*	**	**	Excellent and profitable summer apple;
Farrar's Summer, <i>syn.</i> , <i>Robinson's Superb</i> .....	S	.....	**	**	.....	.....	Very good; lasts from July to October.
Floyd.....	S	M	*	*	.....	.....	Ripens from June to September.
Grimes' Golden Pippin.....	EW	.....	**	*	.....	.....	Very good in Mountain Region.
Gravenstein.....	ES	.....	*	*	*	*	Productive; valuable summer variety.
Healep.....	W	.....	*	*	.....	.....	An improved Shockley; and better in quality in the Mountain Region.
Hargrove.....	A	.....	*	*	.....	.....	A showy and excellent new apple.
Homony, <i>syn.</i> , <i>Summer Queen of Kentucky, Sops of Wine</i> .....	S	M	**	**	*	*	Excellent; prolific.
Hiley's Eureka.....	LW	.....	**	**	.....	.....	Late keeper.
Horse.....	S	K	**	**	**	**	Superior for cooking and drying; prolific;
Hockett's Sweet.....	LW	.....	**	*	.....	.....	Prolific, and good keeper.
Horn.....	LW	.....	**	*	.....	.....	Good keeper, open grower.
Julian.....	S	C	*	*	.....	.....	Productive; excellent for cider; showy fruit.
Jewett's Best.....	S	.....	*	*	.....	.....	Very large; very good, stout grower,
Kansas Queen.....	S	.....	*	*	.....	.....	Very showy.
Kentucky Red Streak, <i>syn.</i> , <i>Bradford's Best</i> .....	A	.....	*	*	.....	.....	Fine grower.
Kinnard.....	W	M	*	*	.....	.....	Excellent for mountains.
Lanier.....	A	M	*	*	.....	.....	Showy fall apple; good quality.
May Pippin.....	ES	.....	*	*	.....	.....	Very early; reliable in Middle or Western
Magma.....	A	.....	*	*	.....	.....	Very good; fine tree.
Mangum.....	W	.....	*	*	.....	.....	Excellent; prolific; subject to moth.
Maverick's Sweet.....	W	M	*	*	.....	.....	Very good; good keeper.
Mitchell's Cider.....	S	C	*	*	**	**	Promising well; late summer.
Moultrie's <i>syn.</i> , <i>Indian Winter</i> .....	LW	M	**	**	.....	.....	Good and late keeper.
Mrs. Bryan.....	A	M	**	**	.....	.....	Showy and excellent. Valuable for market.
Nickajack, <i>syn.</i> , <i>Summerour, Berry, Wonder, etc.</i> .....	W	M	.....	*	.....	.....	Excellent in some sections of Middle Region unreliable; apt to drop before attaining full size.
Oconee Greening.....	A	.....	*	*	.....	.....	Excellent.
Palmer or Pear Apple.....	E	.....	*	*	.....	.....	Medium, very good; prolific.
Pitt Stump.....	A	M	*	*	.....	.....	Promising for Piedmont region.
Poorhouse.....	W	.....	*	*	.....	.....	Winter apple of Pippin type.
Romanite.....	LW	.....	*	*	.....	.....	Good quality; excellent in Mountain Region.
Red June, <i>syn.</i> , <i>Carolina Red June</i> .....	ES	M	**	**	**	**	{ Early, prolific, very good; bears very young; profitable for market.
Rome Beauty.....	A	M	**	**	.....	.....	Showy and excellent.

## APPLES.—Continued.

NAME	Season.	Use.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Rhodes' Orange.....	ES	.....	***	.....	.....	.....	Excellent summer fruit.
Simmon's Red.....	S	K	.....	.....	.....	.....	* Matures fruit from June to October.
Shockley.....	LW	M	***	.....	.....	.....	* Reliable in every section; profitable.
Santa.....	LW	M	*	*	.....	.....	* Very good; late keeper; even on coast.
Summer Cheese.....	S	K	***	.....	.....	.....	* Large, prolific, excellent for cooking and
Summer Queen.....	S	M	***	.....	.....	.....	* Good market apple. [drying
Stevenson's Winter.....	LW	M	***	.....	.....	.....	* Unsurpassed in quality, bearing and keeping.
Striped June, <i>syn.</i> , <i>Early Red</i>	ES	M	***	.....	.....	.....	* Excellent, fine grower and prolific.
<i>Margaret of the South</i> .....	S	M	***	.....	.....	.....	* Very good, early, sweet. [ket; open grower.
Sweet Bough, <i>syn.</i> , <i>Sweet Har-</i>	S	M	***	.....	.....	.....	* Large, Showy, good quality, fine for mar-
vest.....	LW	M	.....	.....	.....	.....	* An excellent keeper; resembles Pryor's Red
Taunton.....	A	.....	.....	.....	.....	.....	* Good.
Terry.....	LW	M	.....	.....	.....	.....	* Good.
Webb's Winter.....	W	.....	.....	.....	.....	.....	* Very showy and excellent.
White's Winter Permain.....	W	.....	.....	.....	.....	.....	* Quality very good.
Wallace Howard.....	A	M	.....	.....	.....	.....	* Very good. Small.
Wine Sap.....	LW	M	***	.....	.....	.....	.....
Yates.....	LW	C	***	.....	.....	.....	.....
Yellow Transparent.....	LW	C	***	.....	.....	.....	.....
Yopp's Favorite.....	S	.....	*	*	.....	.....	..... [variety.
							* Very good, prolific, and bears young; desirable

## LEADING VARIETIES OF APPLES FOR MARKET ORCHARDS.

*Summer*—Astrachan, Red June, Early Harvest, Gravenstein, Family, Striped June, Horse, Julian, Homony.

*Autumn*—Buncombe, Carter's Blue, Equinetelee, Rome Beauty, Fall Pippin, Mrs. Bryan, Taunton.

*Winter*—Black Warrior, Ben Davis, Chattahoochee, Greening, Etowah, Hockett's Sweet, Mangum, Romanite, Sauta, Shockley, Stevenson's Winter, Yates.

## PEACHES.

EXPLANATION OF COLUMNS.—1st, name of variety; 2d. class—freestone or clingstone; 3d, color of flesh; 4th, season; 5th, use. Remaining columns denote the region, etc.

ABBREVIATIONS.—*Class*—F freestone; C, clingstone. *Flesh*, W, white; Y, yellow; R, red. *Season*—E, early; V E, very early; M, medium; L, late; V L, very late. Very early, ripens from end of May to June 20th; early, from August 10th to October 1st; very late, from October 1st to November 10th. *Use*—F, for family use only; M, the most valuable for market; D, the most desirable for drying. Varieties not marked may be considered good for home use.

## PEACHES—Continued.

NAME.	Class.	Color of Flesh.	Season.	Use.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Alexander, <i>syn.</i> , <i>Amsden</i> .....	F	W	V E	M	***	***	***	***	Quality very good; bright color; very profitable.
Amelia, <i>syn.</i> , <i>Stromaw's Carolina</i> .....	F	W	E L	F	***	***	***	***	Very large; very good. Excellent October cling.
Austin.....	F	W	V L	MF	***	***	***	***	Large, showy, excellent.
Berenice.....	F	W	V L	M	***	***	***	***	An excellent, very late cling.
Bustian's October.....	F	W	V L	M	***	***	***	***	Good late freestone.
Baldwin's Late.....	F	W	V L	M	***	***	***	***	Of Chinese type and earlier than Elberta.
Belle of Georgia.....	F	W	V L	M	***	***	***	***	
Brandywine.....	F	W	V L	M	***	***	***	***	
Carman.....	F	W	V E	M	***	***	***	***	Bears early and prolific.
Champion.....	F	W	E M	M	***	***	***	***	
Chinese Cling.....	F	W	E M	M	***	***	***	***	Excellent and large; subject to rot.
Church.....	F	W	L	M	***	***	***	***	Very good September freestone.
Columbia, <i>syn.</i> , <i>Indian Pace, etc.</i> .....	F	Y	M	MD	***	***	***	***	Excellent for all purposes.
Crawford's Early.....	F	Y	M	M	***	***	***	***	Very good and standard market variety.
Crawford's Late.....	F	Y	M	M	***	***	***	***	Variable; rots in some seasons.
Darby.....	F	W	V L	M	***	***	***	***	An excellent October cling.
Demming's September.....	C	Y	L	M	***	***	***	***	Similar to Lemon cling; ripens one month
Duff Yellow.....	C	Y	L	M	***	***	***	***	Very large, early; second quality. [later.
Early Tillotson.....	C	R	V E	M	***	***	***	***	Very desirable.
Eaton's Golden.....	C	Y	L	M	***	***	***	***	Superior cling for preserving.
Elberta.....	F	Y	M	M	***	***	***	***	Very large and handsome.
Emma.....	F	Y	L	M	***	***	***	***	Follows Elberta. Excellent.
Everbearing.....	F	W	E & L	F	***	***	***	***	Excellent for family use.
Flowellen.....	C	R	E	.....	***	***	***	***	Good early cling of Indian type.
Fleitas St. John, <i>syn.</i> , <i>May Beauty</i> .....	F	Y	V E	M	***	***	***	***	Very good, early; excellent market variety.
Fords.....	F	W	V E	M	***	***	***	***	Large, very early, promising.
Foster.....	F	Y	V E	M	***	***	***	***	Earlier than Early Crawford.
Goode's October.....	C	R	V L	M	***	***	***	***	Very good late Indian cling.
General Taylor.....	C	R	V E	M	***	***	***	***	Very good early cling.
Greensboro.....	F	W	V E	M	***	***	***	***	
Heath White, <i>syn.</i> , <i>White English</i> .....	C	W	L	M	***	***	***	***	Excellent for preserving and market.
Hiley's or Early Belle.....	C	W	V E	M	***	***	***	***	Improvement on Tillotson.
Indian Blood Cling.....	C	R	M	M	***	***	***	***	Very juicy and good.
Lady Ingold.....	F	Y	E	M	***	***	***	***	Excellent, earlier than Early Crawford
Lemon Cling <i>syn</i> <i>Pine-apple</i> .....	C	Y	M	M	***	***	***	***	Superior cling.
Louise.....	F	W	V E	M	***	***	***	***	Very good; ripens ten days after Alexan-
Mountain Rose.....	F	W	M	M	***	***	***	***	Superior to Early York. [der.
Muscogee.....	F	W	M	M	***	***	***	***	White-fleshed Columbia. Good.
Newington Cling.....	C	Y	L	.....	***	***	***	***	
Osceola.....	F	Y	M	M	***	***	***	***	Good freestone of Indian type.
Oldmixon Freestone.....	C	W	M	M	***	***	***	***	Excellent market variety.
Oldmixon Clingstone.....	C	Y	M	M	***	***	***	***	Excellent market variety.
Oroile.....	C	Y	M	M	***	***	***	***	One of the best yellow July clings.
Plant.....	F	Y	L	MD	***	***	***	***	Large, showy. August.
Picquet's Late.....	F	W	V E	M	***	***	***	***	Best freestone of its season.
Red River.....	F	W	V E	M	***	***	***	***	Earlier than its parent, Chinese Cling.
R. E. Lee.....	F	W	V E	F	***	***	***	***	Of best quality, large size; too tender for market.
Rivers.....	F	W	V E	F	***	***	***	***	Promising as a very early shipping variety.
Sneed.....	F	W	V E	M	***	***	***	***	Superior market variety.
Stump the World.....	F	W	M	M	***	***	***	***	Very large; superior to Late Crawford.
Susquehannah.....	F	Y	V L	M	***	***	***	***	Good late cling.
Scott's October.....	C	Y	V L	.....	***	***	***	***	Promising as a late clingstone.
Stinson's October.....	C	Y	V L	.....	***	***	***	***	Earliest yellow freestone.
Triumph.....	F	W	V E	F	***	***	***	***	Very large, best quality.
Thurber.....	C	W	V L	M	***	***	***	***	Good late cling.
Tinsley's Oct. Cling.....	C	Y	V E	M	***	***	***	***	Similar to Lemon cling. June.
Tuskena.....	C	Y	V E	M	***	***	***	***	Better than Carman.
Waddell.....	C	Y	V E	M	***	***	***	***	

## LEADING MARKET VARIETIES IN ORDER OF MATURITY.

Sneed, Alexander, Louise, Tillotson, Fleitas St. John, Carman, Tuskena, Mountain Rose, Lady Ingold, Early Crawford,

## PEACHES—Continued.

Gen. Lec, Chinese Cling, Oldmixon Free, Susquehannah, Elberta, Emma, Stump the World, Columbia, Lemon Cling, Muscogee, Indian Blood Cling, Picquet's, White Heath Cling, Eaton's Golden, Baldwin's, Austin, Darby, Bustian's, Stinson's.

## LEADING VARIETIES FOR SHIPPING TO NORTHERN AND WESTERN MARKETS.

Sneed, Alexander, Fleitas St. John, Tillotson, Carman, Crawford's Early, Crawford's Late, Mountain Rose, Stump the World, Susquehannah, Elberta, Emma, Globe.

## NECTARINES.

Boston, Downton, Early Newington, Early Scarlet, Early Violet, Elruge, Golden Cling, Hardewick, Hunt's Tawny, New White, Red Roman, Stanwick, Victoria.

Reports from every section state this fruit to be unreliable, owing to attacks of the curculio, and unless carefully sprayed, is unproductive.

## APRICOTS.

Explanations and abbreviations same as Peaches.

NAME.	Class.	Color of Flesh.	Season.	Use.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Breda.....	F	Y	E	.....	*	*	.....	.....	Trees are liable to be killed by spring frost. Only desirable for city gardens or where protected by surrounding buildings.
Early Golden.....	F	Y	E	.....	*	*	.....	.....	
Hemskirke.....	F	R	M	.....	.....	.....	.....	.....	
Kaisha.....	F	Y	M	.....	.....	.....	.....	.....	
Large Early.....	F	Y R	E	.....	*	.....	.....	.....	
Large Red.....	F	R	M	.....	.....	.....	.....	.....	
Moorpark.....	F	Y	L	.....	.....	*	.....	.....	
Orange.....	F	Y	M	.....	.....	.....	.....	.....	
Peach.....	F	Y	M	.....	.....	*	.....	.....	
Royal.....	F	Y R	M	.....	.....	*	.....	.....	
St. Ambrose.....	F	Y R	M	.....	.....	*	.....	.....	
Turkey.....	F	Y	L	.....	.....	.....	.....	.....	

## POMEGRANATES.

NAME.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Acid.....	.....	.....	.....	.....	Suitable for pot culture. [this plant. The climate of Mountain Region is too cold to grow
Dwarf.....	.....	.....	.....	.....	
Large Sweet.....	.....	.....	.....	.....	



## NUTS.

## WALNUTS.

*English*: (*Juglans Regia*)—The most suitable soils are calcareous, clay, loam, gravelly or stony, naturally well drained; stiff clays, retentive of humidity, are unsuited.

*Common*—This is the typical variety from which are derived the following forms or sub-varieties:

*Chaberte*—Nut oval, medium, full kernel, rich in oil, blooms late, and therefore suited to localities liable to late spring frosts.

*Early Bearing* (*Proeparturiensis*)—Nuts medium, nearly round, good quality. The tree is remarkably prolific and begins to yield fruit at from four to five years from seed. Half hard shell.

*Franquette*—Large, oblong, pointed, full kernel, half hard shell.

*Mayette*—Nuts produced in pairs, half hard shell, full kernel, excellent quality.

*Parisienne*—Large, oblong, half hard and rough shell, kernel scarcely filling the shell. Very prolific and of good quality.

*St. John*—Nut medium, hard shell, good quality. Blooms latest of all, and valuable where late springs prevail.

*Thin Shelled*—Nuts large, oblong, very thin shell, of excellent quality and the standard dessert variety. Keeps sweet a long time. Its shell is liable to be crushed when roughly handled.

*Barthere*—Nut very long, half hard shell, full kernel.

*Ailantus Leaved*—Fruit produced in pendulous clusters, wholly of ornamental value.

*Cut Leaved*—Leaves deeply lacinated. Nut medium, of good quality.

*Long Beaked*—Fruit with a long beak. Of no special commercial value.

*Walnut, Japan*—(*Juglans Seiboldii*)—Nuts produced in clusters of six to twelve of medium size, pointed, shell very hard, kernel very sweet, prolific and bears fruit when trees are four to six years old.

*Walnut, American Black*—(*Juglans Nigra*)—Fruit large, very hard shell, kernel sweet. Doubtless susceptible of producing improved varieties by judicious selection. Timber valuable for cabinet work.

*Walnut, Ashy Grey or Butter Nut*—(*Juglans Cinerea*)—Mountain districts, nut large, hard shell. May be improved under cultivation. The timber is valuable for cabinet work.

## PECANS.

(*Carya Oliveformis*)—Succeed in almost any soil, but best in rich alluvial or river bottoms. Hardy with a Texas to Nebraska.

Nuts vary in size and shape, from the very hard shelled inch nuts to the very thin paper shell, which sometimes attain two and a half inches in length. Forms reproduce themselves from seed with some variation, the average of self-reproduction being about fifty per cent.

*Louisiana and Texas Paper Shell* command the highest market prices. In shape they vary from two and a half inches long by three quarters to one inch in diameter to other shapes approaching to the more globular, but the distinctive characteristics are the more or less thin shell, which is well filled by a sweet and well flavored kernel. Some forms of the paper shell class are known under local names, such as Turkey Egg, Mexican, Stuart, Centennial, Colorado, Pride of the Coast, etc.

*Hard Shell Pecans* vary in size and shape of nut, the larger forms being two inches by three quarters, and many are of excellent quality, but as a commercial commodity do not command the high prices of the former.

NOTE.—The impression prevails that whenever the tap root is cut in transplanting the tree never bears fruit. This is a ridiculous assertion, and is misleading as it is contrary to all past experience, because of the fact that most of the thousands of bearing Pecan trees found throughout the States had their tap root sometimes reduced to a few inches in length.

CHESTNUTS.

*American* (*Castanea Americana* of D. Don)—Nuts of medium size, usually three in a burr, the middle one flattened and sometimes imperfect, the outer one plano-convex; flavor sweet; succeeds in almost any soil not too moist, but thrives best in rich, clayey or rocky soils in the upland districts. Several forms have been produced by careful selection of the largest nuts. The most conspicuous being *Paragon* and *Numbo*, both producing nuts of very large size and excellent flavor.

*Chincapin* (*Castanea Pumila*)—Nuts small, solitary in burr, flavor sweet. A small tree or large shrub, succeeding in much lower sections of the State than the chestnut. No improved forms are recorded.

*European* (*Castanea Vesca*)—In each country of Europe are found forms which seem specially adapted thereto and known mainly under local names. The following may be classed as principal varieties and known as commercial sorts:

*Ordinary*—Nut medium, very productive, usually propagated from seed and the varieties known as *European* or *Spanish*.

*Exalade*—Nut large and considered of the best quality; tree rather dwarf and productive.

*Pourtalonne*—Nut very large.

*Green of Louisiana*—Large, and keeps sweet a long time.

*Combale*—Nut very large and tree very productive.

*Nouzillarde*—Very large and requires a warm soil and section.

*Lyons, Luc, Lusignan, d' Agen*, etc., are names given to the large nuts usually found in commerce.

Identical reproduction by seed is unreliable; fifty per cent. may be taken as a fair average. The best varieties are increased by grafting.

*Japan*—This is a distinct type, resembling the European more closely than the American and contains many forms. Nuts grown upon seedling trees vary remarkably in size and quality, some being scarcely as large as the American sweet chestnut, whereas others are larger than any of the European sorts. Hence the best forms can only be reliably propagated by grafting. The word *Mammoth* cannot always be applied to seedlings, because of the great variation in size.

The true *Mammoth* as produced upon grafted trees, is of very large size, sometimes attaining one and three-quarters by one and one-half inches. Flavor sweet but inferior to the European sorts. Burrs often producing four to five nuts, and occasionally as many as seven. Trees are very dwarf growth, and begin to bear fruit at two years from graft, but seem to be short lived.

ALMONDS.

As a rule unsuited to the State of Georgia owing to fruit blooms being injured by spring frosts. Occasionally successful in the Coast and Southern regions.

*Hard Shell*—This section comprises several varieties with sweet and bitter kernels. The latter resist spring frost better than the sweet varieties and often yield good crops of nuts, which are, however, of little value for culinary purposes. Where successful the following sub-varieties produce sweet nuts: *Ordinary, Large Green, Half Hard Shell*, all sweet nuts; *Matherone, Moliere, Pistache*.

*Soft or Paper Shell, Princess, Sultana, Heterophylle*—This is the most esteemed for using in a fresh state. *Peach Almond*, a variety with occasionally a fresh hull, in this resembling a peach. Of little value as a fruit.

## FILBERTS.

*(Corylus Avellana.)*

These are divided into two classes: 1. *Filberts*, or with long husks. 2. *Hazelnuts*, or with short husks. These plants thrive best in light but rich soils, and not too dry. Plants must be trained to single stems and very low heads, all suckers carefully removed. The best varieties are *Cosford*, *Kentish Cob*, *Lombard*, *Purple Filbert*, *White Filbert*.

## PEARS.

EXPLANATION OF COLUMNS—1st, name of variety; 2nd, season; 3rd, use; 4th, stock upon which the variety succeeds best; remainder, the region in which the varieties are recommended.

ABBREVIATIONS—*Season* and *Use*, same as those for Apples. *Stock*—Q, quince; S, pear stock. Where not marked, the varieties thrive equally upon quince or pear.

NAME.	Season.	Use.	Stock.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Bartlett .....	S	M	S	**	**	**	**	Good everywhere, but subject to blight.
Belle Lucrative. ....	S	A	S	**	**	**	*	Good for family use.
Beurre Bosc .....	S	S	S	*	*	*	*	Variable as to soil.
Beurre Clairgeau .....	A	S	S	*	*	*	**	Apt to lose its foliage.
Beurre d'Anjou .....	S	M	Q	**	**	*	*	Very good.
Beurre Diel .....	S	S	S	*	*	*	*	Good.
Beurre Easter .....	W	S	S	**	**	*	*	A late keeper.
Beurre Giffard .....	ES	S	Q	**	**	*	*	Very early; open growth.
Beurre Laugelier .....	A	S	S	**	**	*	*	Very fine in Mountain region.
Beurre Superfin .....	S	M	S	**	**	*	*	Excellent, but rots at the core. [ard only.
Clapp's Favorite .....	S	M	S	**	**	*	*	Very good; fine color; matures rapidly; stand-
Doyenne d'Ete .....	ES	S	S	**	**	*	*	Good; very early but small.
Doyenne Boussock .....	S	S	S	*	*	*	*	Slow bearer.
Duchesse d'Angoulême .....	M	Q	S	**	**	**	**	Most profitable of all on quince.
Flemish Beauty .....	S	M	S	**	**	*	*	Good, but liable to rot at core.
Garber .....	S	M	S	*	*	*	*	Oriental type, good; follows Leconte.
Howell .....	S	M	S	**	**	**	**	Very good.
Keiffer .....	A	M	S	**	**	**	**	Productive and valuable as a late pear.
Lawrence .....	S	M	S	*	*	*	*	Large and fine; fine grower; best on standard.
Louise Bonne de Jersey .....	S	S	S	*	*	*	*	Variable as to quality.
LeConte, <i>syn.</i> , <i>Chinese Pear</i> .....	S	M	S	**	**	**	**	Valuable in South Georgia; very good for table [and market.
Mikado .....	S	S	S	*	*	*	*	Good for canning.
Mme. Von Siebold .....	A	S	S	*	*	*	*	Good for canning.
Onondaga .....	S	M	S	*	*	*	*	Vigorous grower; good quality.
Osband's Summer .....	ES	S	S	*	*	*	*	Small, but excellent and productive.
Ott .....	S	S	S	*	*	*	*	Seedling of Doyenne d'Ete, and better.
Petite Marguerite .....	VE	S	S	*	*	*	*	Excellent quality; reliable bearer.
Reliance .....	S	S	S	*	*	*	*	Fine grower; good fruit.
St. Michael Archangel .....	S	M	Q	**	**	**	**	Slow bearer; fruit best quality.
Seckel .....	S	M	Q	**	**	**	**	Slow bearer; fruit best quality.
Steven's Genesee .....	S	S	S	*	*	*	*	Oriental type; resembles LeConte, but little
Smith s. ....	S	M	S	*	*	*	*	Best keeper and excellent. [earlier.
Winter Nelis .....	W	S	S	*	*	*	*	Slow grower; good fruit.
Wild-r .....	VE	T	S	**	*	*	*	Showy, small, good, but slow bearer.

## BEST VARIETIES FOR MARKET IN ORDER OF MATURITY.

ON QUINCE—Beurre Giffard, St. Michael Archangel, Beurre Superfin, Howell, Duchesse d'Angoulême, Seckel, Beurre d'Anjou.

ON STANDARD—Doyenne d'Ete, Clapp's Favorite, Bartlett, Belle Lucrative, LeConte, Flemish Beauty, Beurre Clairgeau, Lawrence, Keiffer, Beurre Easter and Winter Nelis.

ORIENTAL TYPE—Mikado, Garber, Mme. Von Siebold. Very productive and valuable for canning and evaporating only.

## PLUMS.

EXPLANATION OF COLUMNS—1st, name of variety; 2nd, color; 3rd, class; whether free or clingstone; 4th, season; remainder, region in which the varieties are recommended.

ABBREVIATIONS—Color—R, red; Y, yellow; B, blue; G, green; P, purple. Season—As for Peaches. Class—C, clingstone; F, freestone.

NAME.	Color.	Class.	Season.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
<i>Type Americana or Peach-Leaved.</i>								
Harpers .....	R	C	M	*	**	...	...	Very late; prolific, must ripen upon the tree. Promising well.
Kanawha .....	R	C	L	...	*	...	...	
Miner .....	R	C	M	...	*	...	...	
<i>Type Chickasaw.</i>								
Cumberland .....	Y	C	L	...	**	...	...	Prolific, and of good quality.
Hughes .....	R	C	M	...	*	...	...	Good quality; prolific bearer.
Missouri .....	R	C	L	...	*	...	...	Grows in clusters.
Pottawottamie .....	R	C	M	...	*	...	...	Follows Wild Goose.
Robinson .....	R	C	M	...	**	...	...	
Wild Goose .....	R	C	E	**	*	...	...	
<i>Supposed Cross.</i>								
DeCaradec .....	YR	C	E	*	*	**	...	Most profitable for shipping.
<i>Type European.</i>								
Bradshaw .....	R	F	M	...	*	...	...	The Curculio prevents this class of plums from being raised to any extent. Where special care is taken to destroy the insects, the varieties marked * are recommended.
Coe's Golden Drop .....	Y	C	M	*	*	...	...	
Columbia .....	P	F	M	...	*	...	...	
Danson, <i>syn.</i> , Black .....	B	F	E	**	**	...	...	
Duane's Purple .....	P	C	M	*	*	...	...	
Green Gage .....	G	F	M	*	*	...	...	
Imperial Gage .....	G	F	M	*	*	...	...	
Lombard .....	P	C	M	*	*	...	...	
Mogul, <i>syn.</i> , Morocco .....	B	C	M	*	*	...	...	
Monroe .....	G	...	M	*	*	...	...	
Moore's (Arctic) .....	P	...	M	*	*	...	...	Good quality in mountains.
Orleans (Smith's) .....	P	F	M	*	*	...	...	
Red Gage .....	P	F	M	*	*	...	...	
Shipper's Pride .....	P	F	M	*	*	...	...	
Washington .....	Y	F	M	*	*	...	...	
Yellow Gage .....	Y	F	...	*	*	...	...	Profuse bearer.

## JAPANESE PLUMS.

*Prunus Triflora* of Botanists—*Prunus Japonica* of Pomologists.

For many years past efforts have been made to simplify their nomenclature and remove the perplexing synonymy resulting from the Japanese names, which usually refer to a class or type or the locality from which trees are exported, and have resulted in the confusion which has existed in their nomenclature. Specific names have lately been adopted by leading American Pomologists, and plums disseminated under these.

## HATTANKIO GROUP.

As the varieties of this group appear to be less hardy in the Northern States, we would recommend these for sections below the thirty-fourth degree of latitude north.

*Georgeson* or *Hattankio* No. 1—Usually round, 1½ to 1½ inches in diameter, clear gold or yellow; flesh firm, yellow, sweet, and gage flavor; clingstone. July 1st to 10th, or two weeks later than Kerr.

*Kerr or Hattankie No. 2*—Variable in shape, usually pointed,  $1\frac{1}{2}$  by  $1\frac{1}{2}$  inches, but perfectly round specimens are often produced upon the same tree. The pointed form is the *Hattankie-Togari* (Togari means pointed); the round form is sometimes called *Hattankie-Maru* (Maru means round). Skin bright yellow, flesh yellow, juicy, sub-acid, gage flavor; quality very good. Clingstone. Maturity from June 10 to 20. Very prolific, and an excellent early market as well as dessert fruit.

*Kelsey*—This is the most remarkable variety of this section. It sustains every point of excellence claimed for it by the introducers. Size large to very large, often 7 to 9 inches in circumference; heart shape; color greenish yellow, overspread with reddish purple and blue bloom; flesh very solid, yellow, rich and juicy, and with excellent flavor; pit very small; adheres slightly to the flesh. For canning or evaporating it is also most valuable. Experiments resulted in yielding  $19\frac{1}{2}$  pounds of dried fruit to 100 pounds of fresh fruit. Maturity middle of July to end of August.

The fruit decay to some extent is during the rainy seasons in July. This is more apparent where trees are kept cultivated after the middle of June. Upon clay soils, and where the surface is left undisturbed a month or six weeks before maturity, the fruit is usually entirely free from decay, and keeps sound until the middle of September.

#### SMOMO GROUP.

This type seems to belong to the hardier or Northern group, and has given good results nearly everywhere.

*Abundance or Yellow Fleshed Botan*—Round with pointed apex, but varies from quite round to sharply pointed. Skin yellow ground, heavily washed purple carmine and a darker cheek. Flesh yellow, very juicy, sub-acid, with apricot flavor; quite firm; skin tough; clingstone; quality best; pit large. Maturity June 25 to July 5. One of the best early varieties and carries well to distant markets.

It is the most desirable for shipping North and West. Fruit should be thinned, otherwise the size is reduced and quality inferior.

*Berckmans or Sweet Botan*—Large, obtusely conical, green, nearly covered with dull purple; flesh firm, yellowish, somewhat coarse, and of second quality; freestone. Ripens from June 15 to July 15; very productive.

Although possessing some merits, it is inferior in quality to the yellow fleshed Botan, but this variety seems to be one of the most desirable for upper sections, where its quality improves.

*Burbank*—In general characteristics resembles Abundance or Yellow Fleshed Botan. Color cherry red, mottled yellow; shape usually more globular; flesh, flavor and quality are identical, but its period of maturity here is from two to three weeks later, or middle to last of July. The tree is of very vigorous habit, differing in foliage and growth. Valuable for shipping and follows Abundance.

*Chabot*— $2\frac{1}{2}$  inches long by 2 inches broad; yellow ground nearly covered with carmine red, flesh orange yellow, very solid, sub-acid; quality very good; clingstone. Maturity end of July. This is identical with *Bailey* and *Normand*.

*Hatan Kayo* (Douglas and Munson in Prof. Bailey's Bulletins.) Medium to large, slightly pointed, bright vermillion, sub-acid; excellent, cling, middle to end of July.

*Maru*—Of medium size, slightly pointed, light red; flesh yellowish, melting, juicy, sub-acid; nearly freestone; second quality, but showy. Maturity end of June. Not desirable for the extreme South, but it is hardier in bud than any other Japanese plum tested.

*Ogon, Shiro-Smomo, or the White Plum*—Medium to large, round, golden yellow; flesh yellow, firm, sub-acid, quality good; freestone. June 15, tree of vigorous growth. A good cooking fruit.

*Red Nagate, or Red June, or Long Fruit*— $1\frac{1}{2}$  by  $1\frac{1}{2}$  inches, pointed, skin thick, purplish red, with blue bloom. Flesh yellow, solid, somewhat coarse grained; juicy, sub-acid with Damson flavor; clingstone; quality good. Maturity middle to end of June. Very prolific, showy and good; very early market variety.

## UCHI-BENI, OR BENI-SMOMO GROUP.

*Or Red Fleshed.*

*Satsuma or Blood Plum*—Synonym: *Yonemomo*. Large, skin dark purplish red, mottled with bluish bloom; shape globular or with sharp point; flesh firm, juicy, dark red or blood color; well flavored, firm; quality very good, pit small. Maturity middle of July; tree very vigorous. One of the most valuable varieties of this section for canning.

## CROSS-BRED VARIETIES.

*America*—Very promising.

*Doris*—Very promising.

*Hale (from Luther Burbank Santa Rosa, California)*—Large, round, cordate, orange mottled red; flesh yellow, soft, juicy; slightly acid, cling; end of July; very good to the best, not productive.

*Wickson (from Luther Burbank,)* (*Kelsey Satsuma*)—Very large, obconical, pale yellow, but gradually assuming a deeper color which is almost dark red at full maturity. Flesh yellow, solid, very rich, sweet, cling and well flavored, quality best, middle to end of July, very prolific.

## PRUNUS SIMONI.

*Simon's Chinese Apricot Plum.*

A remarkable fruit indeed. This was introduced 24 years ago from China. The tree is of attractive, erect and compact habit; flowers very small; fruit large, flattened,  $2\frac{1}{2}$  by  $2\frac{3}{4}$  inches broad, by  $1\frac{1}{2}$  to 2 inches through, resembling a ripe tomato; flesh yellow, fine grained and firm; juicy, sub-acid and with a remarkable combination of flavors, such as pear, pineapple and muskmelon; quality best; begins to ripen June 15 and lasts one month. The tree is a shy bearer, but in favorable seasons produces a heavy crop of fruit, which always bring a high price.

## PERSIAN PURPLE-LEAVED PLUM, OR PRUNUS PISSARDII.

*(Prunus Miriobolana Type.)*

Fruit Medium, dark purple, flesh deep red, juicy, sub-acid. Ripens end of May; a good cooking fruit. Foliage deep purplish red, retained throughout our warmest weather and until mid-winter. Its great value is as an ornamental tree.

## NATIVE GRAPES.

EXPLANATION OF COLUMNS—1st, name; 2nd, variety; 3rd, season; 4th, use; remaining columns for regions, etc.

ABBREVIATIONS—Color—W, white; B, blue or black; R, red; P B, pale blue. Season—E, early, maturing from beginning to end of July; M, medium, maturing from end of July to August 15; L, late, maturing after middle of August; V L, very late, maturing after middle of September. Use—M, market; T, table; W, wine.

NAME.	Color.	Season.	Use.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
<i>Type Labrusca or Fox Grape.</i>								
Brighton .....	R	E	T	**	*	...	...	Very good quality, good bearer.
Canada .....	B	E	T	*	*	...	...	Good table grape.
Catawba .....	R	M	W	*	*	*	*	Less liable to rot than formerly; regaining old standard.
Concord .....	B	M	MW	**	**	**	**	Among our best varieties.
Delaware .....	PR	E	TW	**	**	**	**	Best table variety, reliable, slow grower.
Diana .....	PR	M	TM	*	*	*	*	Good quality; good bearer and shipper.
Empire State .....	W	.....	.....	*	*	*	*	Unreliable in some soils.
Hartford .....	B	E	M	*	*	*	*	Good early variety for market.
Ives .....	B	M	WM	**	**	**	**	Prolific and no rot.
Moore's .....	B	E	M	*	*	...	...	An early shipper.
Moore's Diamond .....	W	VE	TM	*	*	...	...	Very early; white.
Niagara .....	W	M	M	**	**	**	**	Profitable as a white market grape.
Perkins' .....	R	E	M	*	*	*	*	Good bearer; no rot; second quality.
Worden .....	B	M	M	*	*	...	...	Larger than Concord.
<i>Type Estivalis, Summer Grape.</i>								
Black July, <i>syn., Devereaux</i> .....	B	M	TW	...	*	*	*	Excellent; shy bearer while young.
Lenoir .....	B	M	W	*	*	*	*	Rots in middle region, excellent for wine.
Long, <i>syn., Cn'gham</i> .....	PB	M	W	*	*	...	...	Good, but not productive.
Norton's, <i>Virginia</i> .....	B	L	W	**	**	**	**	Best for red wine.
Warren, <i>syn., Herbe-mont</i> .....	PB	L	W	*	*	...	...	Apt to rot; excellent quality.
<i>Type Cordifolia, Frost Grape.</i>								
Clinton .....	B	M	W	*	*	...	*	Good for red wine.
<i>Type Riparia, River-side Grape.</i>								
Elvira .....	W	M	W	*	*	...	...	Reliable in the upper middle region.
Missouri Rising .....	W	M	TW	...	*	...	...	Good for white wine.
Noah .....	W	M	W	...	*	...	...	For white wine.
<i>Type Rotundifolia, Muscadine.</i>								
Flowers .....	B	VL	W	*	*	**	**	The latest of the type.
Scuppernong .....	W	L	W	**	**	**	**	Most certain bearer, good wine grape.
Tenderpulp .....	B	L	WT	*	*	*	*	Pulp dissolving.
Thomas .....	PB	E	TW	**	**	**	**	An excellent early variety.
James .....	B	L	.....	*	*	...	...	Very large berry.
<i>Crosses.</i>								
Barry .....	B	M	.....	*	*	...	...	
Bell .....	B	M	.....	*	*	...	...	
Carman .....	B	M	T	...	*	...	...	Very showy and good.

## GRAPES—Continued.

NAME.	Color.	Season.	Use.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
<i>Hybrid Varieties.</i>								
Berckmans .....	R	M	T	**	...	...	...	Vigorous; better grower than Delaware.
Duchess .....	W	E	T	...	...	...	...	First quality, but liable to rot; requires sacking.
Goethe, <i>syn.</i> , <i>Rogers</i>	GW	L	T	**	**	*	...	Good; late; requires sacking.
No. 1 .....	W	M	T	*	*	...	...	Moderate grower.
Lady Washington .....	R	M	T	...	*	...	...	Good.
Lindley, <i>syn.</i> , <i>Rogers</i>	R	M	T	...	*	...	...	Good.
No. 9 .....	B	M	T	*	*	*	...	Suitable for amateur culture.
Merrimack, <i>syn.</i> , <i>Rogers</i>	R	M	M	*	*	...	...	Good.
No. 19 .....	W	M	T	**	**	...	...	White; showy.
Salem .....	W	M	T	*	*	...	...	Good.
Triumph .....	W	M	T	*	*	...	...	White; showy.
Wildier, <i>syn.</i> , <i>Rogers</i>	B	M	T	*	*	*	...	Good.
No. 4 .....	W	M	T	*	*	...	...	Very showy.
Irving .....	W	M	T	*	*	...	...	Best quality.
Peter Wylie .....	W	M	T	*	*	...	...	Excellent quality.
Welcome .....	B	M	T	...	**	...	...	...

## LEADING VARIETIES FOR SHIPPING, IN ORDER OF MATURITY.

Moore's Diamond, Moore's, Brighton, Ives, Delaware, Niagara, Concord, Perkins, Diana.

## BEST VARIETIES FOR WINE.

Red—Norton's Virginia, Lenoir, Clinton, Concord, Ives, Thomas.

White—Missouri Riesling, Catawba, Delaware, Elvira, Warren, Noah, Scuppernon.

## STRAWBERRIES.

EXPLANATION OF COLUMNS—1st, name; 2d, sex; 3d, origin; 4th, use; 5th, season.

ABBREVIATIONS—Sex—P, pistillate; all others are hermaphrodite. Origin—F, Foreign; A, American. Use—F, family; M, market. Season—E, early; VE, very early; L, late.

NAME.	Sex.	Origin.	Use.	Season.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Bederwood .....	...	...	...	...	...	*	...	...	Large; suitable for rich soils.
Belmont .....	H	A	F	...	...	*	...	...	
Brandywine .....	...	...	...	...	...	*	...	...	Excellent.
Bubach .....	P	A	M	...	...	**	...	...	
Charles Downing .....	H	A	M	E	...	*	...	...	Good; variable as to soils.
Crescent .....	P	A	M	E	...	**	...	...	
Cumberland .....	H	A	M	M	...	**	...	...	Pistillate; must be cultivated in alternate rows with other varieties.
Greenville .....	...	...	...	...	...	*	...	...	
Gandy .....	H	A	F	M	...	**	...	...	Productive; large.
Haverland .....	H	A	F	M	...	*	...	...	
Hoffman .....	H	A	M	VE	...	**	...	...	Best early shipper.
Lady Thompson .....	...	...	...	...	...	*	...	...	
Michel .....	H	A	M	VE	...	**	...	...	Very early and good quality.
Sharpless .....	H	A	M	L	...	**	...	...	
Wilson's Albany .....	H	A	M	E&L	...	**	...	...	Size large and quality good.
					...	**	...	...	Best; every report favorable.



## RASPBERRIES.

NAME.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
<i>Class I.—Cap Varieties.</i>					
Gregg.....	**	*	*	*	Best of the black caps.
Schaffer's.....	**	*	*	*	Late; productive; good shipper.
Souhegan.....	**	*	*	*	Very early.
<i>Class II.—American Red Varieties.</i>					
Cuthbert, or Queen of the Market.....	**	*	*	*	Best and most reliable.
Reliance.....	**	*	*	*	Good.
Turner.....	*	*	*	*	A promising red variety.
<i>Class III.—Hybrid of Foreign and American Red.</i>					
Caroline.....	*	*	*	*	Good; yellow; productive.
Golden Queen.....	*	*	*	*	Productive in new land.
Florence.....	*	*	*	*	Promising well.
Loudon.....	*	*	*	*	

## BLACKBERRIES.

Austin's Improved, or May's Hybrid.....	*	*	*	*	A large Dewberry.
Dallas.....	*	*	*	*	Early, promising.
Early Cluster.....	*	*	*	*	
Early Harvest.....	*	*	*	*	* Valuable as a very early berry.
Kittatinny.....	*	*	*	*	
Ohmer.....	*	*	*	*	Late.
Taylor's Prolific.....	*	*	*	*	
Trinity.....	*	*	*	*	Very early; 10 days ahead of Early Harvest.
Wilson's.....	*	*	*	*	

## MULBERRIES.

Downing's.....	**	**	**	**	Good; flavor acid; moderate bearer.
Hicks'.....	**	**	**	**	Inferior fruit; very prolific; recommended for poultry and hogs.
Stubbs'.....	**	*	*	*	Large; very good; immensely productive.

## FIGS.

EXPLANATION OF COLUMNS—1st, name; 2d, size; 3rd, color; 4th, season; remaining columns for regions, etc.

ABBREVIATIONS—Size—S, small; L, large; M, medium. Color—W, white or yellow; G, green; B, brown or reddish; P, purple or blue; V, violet. Season—E, early; M, middle season; E. and L, early and late.

NAME.	Size.	Color.	Season.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Angelique, <i>syn.</i> , Early Lemon.....	S	W	E	*	*	*	*	* Small; good; early.
Brunswick, <i>syn.</i> , Madonna, <i>Con'sple</i> .....	L	P	E & L	**	**	**	**	Very large and desirable.
Black Genoa.....	M	P	M	**	**	*	*	
Black Ischia.....	M	P	M	**	**	*	*	* Good.
Brown Turkey.....	M	B	E & L	**	**	**	**	Best of all for middle region.
Brown Smyrna.....	M	B	M	*	*	*	*	* Very good and prolific.
Celestial.....	S	V	E	**	**	*	*	Small; prolific and desirable.
Green Ischia, <i>syn.</i> , White Ischia, <i>Green Italian</i> .....	M	G	M L	**	**	*	*	Very good.
Lemon.....	M	V	M	*	*	*	*	* Good.
Neri.....	S	W	L	*	*	*	*	* Good.
Marseilles.....	M	W	M	*	*	*	*	* Rather dry, but prolific.
Violet Round.....	M	W	M	*	*	*	*	

## CHERRIES.

Explanations and abbreviations same as Figs, except color. R, red; A, amber; DR, dark red, or nearly black; Y, yellow; YR, yellow red.

NAME.	Size.	Color.	Season.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Belle de Choisy .....	M	DR	M	*	*	*	*	Very early. Cherries are uncertain in middle region, except in a few localities, where good crops are sometimes produced, the Morello class being most desirable. Trees should all be grown on Mahaleb stock.
Belle et Magnifique .....	M	R	M	*	*	*	*	
Black Heart, Werder's ...	L	DR	E	...	...	...	...	
Black Tartarian .....	L	DR	M	*	*	*	*	
Black Eagle .....	L	DR	E	*	*	*	*	
Beauman's May .....	L	R	E	*	*	*	*	
Carnation .....	M	R	M	*	*	*	*	
Coe's Transparent .....	S	AY	M	*	*	*	*	
Early's Richmond .....	M	R	M	*	*	*	*	
English Morello .....	M	R	M	*	*	*	*	
Governor Wood .....	L	R	M	*	*	*	*	
May Duke .....	L	R	R	*	*	*	*	
Napoleon .....	L	R	M	*	*	*	*	
Rockport .....	L	AR	E	*	*	*	*	
Reine Hortense .....	L	R	M	*	*	*	*	
Wragg .....	M	P	L	*	*	*	*	
Yellow Spanish .....	L	R	M	*	*	*	*	

## QUINCES.

NAME.	Mountain Region.	Middle Region.	Southern Region.	Coast Region.	REMARKS.
Angers .....	...	...	...	...	Fine quality. Succeeds best in Southwestern Georgia; good for preserving. Most generally cultivated. Large and good.
Chinese .....	*	*	*	*	
Orange or Apple .....	*	*	*	*	
Portugal .....	*	*	*	*	
Rae's Mammoth .....	*	*	*	*	

Quinces need strong clay soil. They are unproductive in gray land except Chinese.

## JAPAN PERSIMMONS.

(*Diospyros Kaki.*)

It is almost impossible to give an accurate nomenclature, owing to the confusion which exists in the collections imported from Japan. These collections seldom contain more than twelve varieties; yet when the trees bear fruit, the same name is often found to apply to several distinct varieties, or one variety has several names. The best and most distinct varieties have been included in this list, and with such synonyms added thereto as have been ascertained after several years' trial; and while no claim is laid to strict accuracy, the aim has been to reach this as nearly as possible.

All the varieties are hardy in the Middle and Coast Regions, and occasionally in the Mountain Region.

The fruit is usually of a bright orange red or vermillion, the color being more or less intense, according to variety, and begins to color when half grown, but should be allowed to hang upon the trees until just before frost is expected; or with the early ripening varieties, until fully soft. If gathered before frost there is a slight astringency next to the skin, but this disappears after being kept in the house for a few days or weeks. If allowed to be slightly touched by frost, the flavor is much improved, but it will then not keep many days. It is, therefore, desirable to gather the fruit before frost, if intended for keeping, and then some varieties will keep until January or February. The flesh is soft, rich and sweet, and with a slight apricot flavor. The fruit should be eaten with a spoon.

Some varieties are apt to overbear, and should have the fruit thinned so soon as set in April.

Trees are propagated mainly by grafting upon the collar of the roots and upon the native species. Seedlings vary in size, shape and quality, but as the largest proportion are male plants, and those which are fruitful are apt to produce small and worthless fruit, very little reliability can therefore be placed upon seedlings, so far as yielding edible fruit.

*Among*, or *Yemon* (name of a Japanese ornament)—Round, flattened, deeply ribbed, dark orange red, and sometimes yellowish red, two and a half to three inches in diameter, average weight six ounces, and occasionally a specimen weighing sixteen ounces is produced. Very sweet, flesh red, and is edible while still solid, quality improves as it becomes soft. Maturity September to end of November. Trees of moderate height.

*Hachiya* ("Beehive" in Japanese)—Synonyms: *Costata*, *Imperial*, *Yomato*, etc. Oblong, with blunt apex, slightly ribbed, two and a half by three inches; average weight five ounces. Flesh deep orange red, astringent while solid, but sweet and very good when soft. Should be house-ripened, and can be kept until March. Tree of vigorous and tall growth.

*Hiyakume* (weighs one hundred "me," a unit of Japanese weight)—This is perhaps the most desirable of all the round, red fleshed varieties, and as the fruit effects various shapes, it is known under many names, such as *Pound*, *Tane-nashi*, or *Seedless*, etc. The Agricultural Bureau of Tokio gives the latter name to a variety with black mottled apex, but we find both round and elongated forms upon the same tree, as also uniformly orange and orange-yellow colored specimens, while many are heavily tipped with black. The variation of forms and colors doubtless led to its array of synonyms. Fruit large, average three inches in diameter, and five ounces in weight; usually flattened, but elongated forms are quite common upon the same branch. Flesh bright orange red. Keeps very late. Must be soft before being edible. Tree of moderate height; apt to be of dwarf growth.

*Ioyama Gaki* (Name of locality)—Medium to large, round, but somewhat narrower at the apex, yellowish orange, with dark black pencillings at apex. Flesh dark brown or grayish brown; very sweet. Can be eaten when solid; four to six ounces.

*Kurokume* (This may possibly be *Goshio-hira*, or *Palace Persimmon*)—Very large, round, somewhat flattened; three to three-and-a-half inches in diameter; average weight ten ounces, and sometimes yields specimens of sixteen ounces in weight; keeps late. Flesh red. Tree erect grower.

*Miyo-tan*—Synonym: *Mazelli*. Round or slightly oblong, two and a half inches in diameter, average weight five and a half ounces; slightly ribbed. Skin deep orange red. Flesh usually deep brown red, but bright red or half red and half brown fleshed specimens are often produced upon the same tree, the results of cross-fertilization by other varieties. Tree of medium or dwarf growth; exceedingly prolific. Fruit keeps very late. The brown fleshed specimens are edible while solid, and as early as Oct. 1.

*Okame* ("Stout young girl" in Japanese)—Synonyms: *Oblong Hyakume*, *Mikado*, etc.; medium to large, two and a half by three and a half inches, oblong, deep red, nearly always seedless, keeps late.

*Tsuru-no-ko* ("Stork Egg")—Synonym: *Minokaki* ("Persimmon from Mino," a locality.) Large, oblong, pointed, two and a half by three and a half inches, weight four to five ounces, sometimes ten ounces. Skin bright red; some specimens covered with black at apex. Flesh red, very good. Keeps late; edible only when soft. Foliage long and shiny; tree compact and vigorous grower. This variety varies very much as to size at different seasons.

*Yedo-Ichi* ("No. 1," or "best in Yedo," latter being the old name of Tokio)—Synonym: *Maru-Gata* ("round shape.") Medium, round, some specimens slightly oblong, flattened at base and narrowing at apex, skin dark red, often with black mottlings near apex; flesh mahogany brown, with darker spots, brittle, and is edible while solid as early as October 1. Very prolific, and bears fruit in large clusters. Tree an upright grower.

*Zerji*, or *Zingi* (name of Japanese village)—Small, one and three-fourths by two inches; weight three to four ounces. Flesh dark brown, with darker spots; very sweet. Edible as early as middle of September while still solid, and lasts throughout October.







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# PROCEEDINGS

OF THE  
TWENTY-THIRD ANNUAL MEETING

OF THE  
Georgia State Horticultural Society

HELD AT  
Tallulah Falls, Ga., August 2d and 3d, 1899.

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*Chartered July 14th, 1876. Organized August 16th, 1876. Reorganized Under New Charter August 1st, 1882.*

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*Published Jointly by the Society and Department of Agriculture.*

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## PREFATORY.

The twenty-third annual session was held at Tallulah Falls, Georgia. This grand and picturesque mountain section being justly called the 'Niagara of the South,' and upwards of two hundred members responded to the roll call.

Owing to the absence of a hall of sufficient size, the three sessions of the first day and the morning session of the second day were held under the shade of venerable oak trees, adjoining the Cliff House. The weather being eminently favorable.

The evening session of the first day was occupied by Professor A. L. Quaintance, of the Georgia Experiment Station, who illustrated his lecture upon "Some Insects and Fungi Destructive to Truck and Garden Crops," with lantern slides.

The afternoon session of the second day took place in the spacious dining hall of the new Tallulah Lodge, which had been specially tendered for the occasion by Mr. J. H. MacKiernan, the courteous proprietor of this splendid new hotel. As the members entered the room they were greeted by an orchestral fanfare, which was greatly appreciated.

Owing to the total failure of the peach crop throughout the State, the fruit exhibit was mainly composed of grapes and apples. The Experiment Station again made an elaborate exhibit of two hundred and ninety-two varieties of grapes, all in excellent condition, well grown and carefully named. Other exhibits of grapes from various sections of the State demonstrate their adaptation for their successful cultivation. It is a noted fact that where care is taken in spraying, no failure of this crop has been reported for years past, and this should encourage the establishing of large vineyards where a sufficient quantity of fruit could be assured to warrant wine making upon a co-operative plan.

The liberality of the Railroads is most gratefully acknowledged by the Society. Their recognition of its practical work has enabled the latter to enlarge its sphere of usefulness and promote the fruit industry of the State. Several of the railroads were represented by their officials, a courtesy which was much appreciated.

While most of the leading fruit growers were unable to aid in the display of fruits, they were gratified at the opportunity to meet their friends and co-workers; exchange notes of the past year's experience and further bind the bonds of friendship which unite them.

Honorable O. B. Stevens, Commissioner of Agriculture, although suffering from the effects of an accident and unable to walk without crutches, was a welcome member. He takes a great interest in everything that concerns the material progress of Georgia.

Letters of regret preventing their attendance were received from Professors W. A. Taylor, of the Division of Pomology, United States Department of Agriculture, Washington, D. C., and Professor W. B. Alwood, of the Virginia Polytechnic Institute, who gave the Society at its session in Savannah, valuable suggestions as to the best plan to follow in securing the present legislative act creating a Board of Entomology.

A photograph of a number of the members was taken at the foot of one of the falls, but as the descent and ascent were quite difficult, the group as illustrated in this report only shows a portion of the members of the Society. The reunion at Tallulah will long be remembered as one of unusual interest to those who attended the session.



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